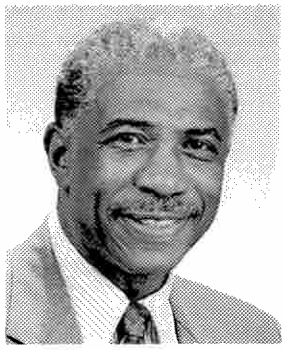
ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

January 10, 1992

TQM Is Still Alive and Kicking in Space Systems

By John Thacker, Division Vice President of Quality Assurance



A number of division employees have recently inquired if Total Quality Management — TQM — is still a division initiative. The answer is a resounding YOU BET!

The TQM Executive Council, comprised of division staff, has been holding meetings to develop a strategy for continued TQM integration in 1992. Lou Brewer of Quality Assurance has been assigned as Space Systems' TQM coordinator. Lou reports directly to me in this function.

TQM was formally introduced to Space Systems in July 1988. Since then many changes have taken place in the program and our work environment. Our efforts to continually improve and expand the effectiveness of TQM have also undergone changes. It is the division staff's conviction that TQM must not only remain a part of our environment, but must also grow. Therefore, in March 1991 each functional vice president was assigned the responsibility for TQM integration. Each department was then tasked to prepare a vision statement that included 1, 3, and 7 year plans for TQM integration into their organization and business practices.

This changed the overall division approach to TQM. The focus went from having a "TQM Czar" to an integration plan that distributes responsibility across the division's senior management. This approach was taken to dovetail TQM initiative, functional departments, and division goals into a coordinated effort. Because this reduced the responsibilities of having a TQM manager, each functional vice president took on the assignment of providing facilitators as required to track departmental quality improvement due to TQM. Training assistance in this mission is provided by the Organizational Effectiveness group in Human Resources.

We employees "own" TQM. It's up to us to choose the time and place to apply it in our work.

Lou Brewer is assigned on a part-time basis to coordinate TQM activities at the division level. This is in addition to his full-time functional assignment as the QA site manager at Plant 19. He will track quality improvements at the division level. Each department's TQM reports will be collated and organized into a division report.

However, in spite of department supervision, facilitators, coordinators, etc., TQM belongs to us — the employees. Both as individuals and team players we have much to contribute. That's a real tough market place competition we are meeting head-to-head out there. In today's business environment a successful company must be world-class. Anything less means losing out. Our competitors are driving the concepts and methodology we must use. In essence, our house is on fire and we are putting it out while teaching fire prevention at the same time. We employees "own" TQM. It is up to us to choose the time and place to apply it in our work.

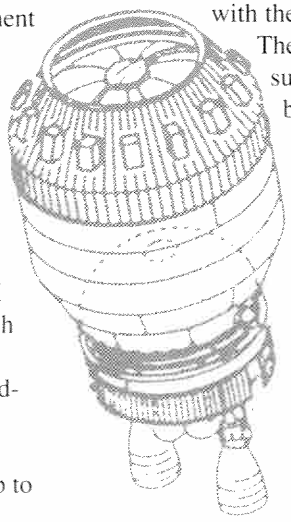
If you have any questions or suggestions regarding TQM integration, please inquire of your department's management.

SUCCESSFUL TCD PERFORMED ON TITAN CENTAUR 8

The first successful terminal countdown demonstration (TCD) of a Titan IV Centaur launch vehicle was recently conducted at Space Launch Complex 41 at Cape Canaveral.

Approximately 130 Space Systems employees along with 250 customer personnel from the U.S. Air Force, participated in the TCD. The purpose of the operation was to demonstrate to the customer that the vehicle and all supporting flight and ground systems, including software, were validated and met the requirements for a successful launch.

The Space Systems team demonstrated that the launch countdown time line was valid, that the vehicle could be successfully tanked and detanked, that abort and recycle operations were properly implemented, and that we could support the complete launch window period.



Without exception, both Space Systems and the customer were elated with the results of the TCD. The sentiment was summed up by the Titan Centaur Vehicle Program Director Tony Christensen, who stated, "It was an extremely successful and rewarding experience for all persons involved considering that the vehicle, the software, the ground support systems, and many procedures were new and untested as a complete and integrated launch system."

Division Passes NASP Test Readiness Review

Space Systems successfully passed a test readiness review of the test setup and planned test procedures for a subscale liquid hydrogen demonstration tank for the National Aerospace Plane (NASP). Our customer, the NASP Joint Program Office (JPO), had to give their approval prior to the actual performance of the test.

The tank was designed by Space Systems Advanced Structures who also oversaw the manufacturing process at Aerotrans Corporation in Springville, Utah. The tank had already been proof-loaded to limit load with helium gas and no leakage occurred.

NASP JPO's written approval came early in the week of November 11. The first liquid hydrogen test took place on November 13 at Sycamore Canyon Test Site D.

This is, by far, the largest composite material tank to be tested in hydrogen to date on the NASP program. It is a critical technology demonstration item, necessary to the successful future of NASP.

Career Transition Center Moves

General Dynamics Career Transition Center (CTC), formerly located in CP5, will be moved to 8835 Balboa Avenue on January 6, 1992.

The Private Industry Council's Re-Employment Center, Employment Development Department personnel, and the San Diego Community College Kearny Mesa Center Computer Lab will be colocated with the CTC.

If you have any questions, please call Sue Dehesa at 44066.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week ending January 2, 1992)

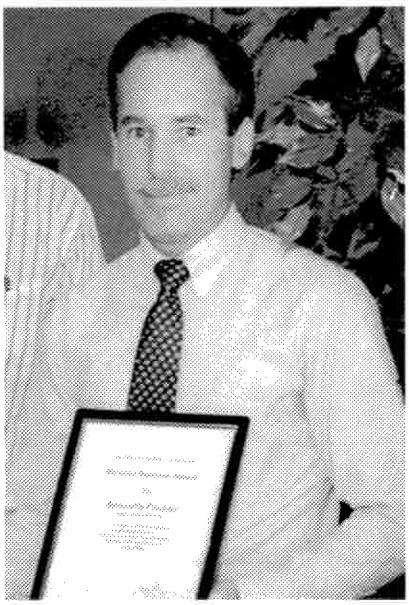
Cape Canaveral	564
Harlingen	359
San Diego	3250
Vandenberg	256
Other Offsite Locations	94
TOTAL	4523

Ken Frazier Receives Buyer-of-the-Year Award

By Patty Pierson

Ken Frazier, a technical buyer in the Machine Parts Buy group, has been named Space Systems Division's Small Disadvantaged Business (SDB) Buyer of the Year. This award is presented to buyers who demonstrate outstanding effort in supporting minority businesses.

Ken's diligence and initiative in his work resulted in awards valued at $1,300,000 with SDBs. His accomplishments include the development of an SDB who supplies large-diameter rings for our launch vehicles. Ken guided this supplier through the initial bid and proposal process in order to ensure their ability to meet award requirements.



He has also spent numerous hours educating SDBs on how to become competitive suppliers, provided them special assistance to eliminate duplication of effort, and supported requests that enabled SDBs to meet schedule and quality requirements.

Ken's belief in fostering long-term partnerships with suppliers has resulted in the development of several strong, profitable, and successful small disadvantaged businesses. In addition to division recognition, Ken also received a nomination for a corporate award.

GD RECOGNIZED FOR COMMITMENT TO MINORITY BUSINESSES

By Debbie Faulk

General Dynamics was recently recognized for its outstanding corporate-wide minority business program. The Distinguished Corporate Award made to GD was accepted by Monty W. Dickinson, staff vice president – Material, at a luncheon during Minority Enterprise Development (MED) Week in Washington, D.C.

The first week in October has been proclaimed MED Week by President Bush. During that special week, hundreds of minority entrepreneurs, representatives from corporate America and federal, state, and local governments, and other private sector entities from across the nation participate in numerous networking activities.

The Distinguished Corporate Award was established in 1989 in order to recognize corporations that have made outstanding and extraordinary contributions in developing and expanding minority business opportunities. To qualify for this award, General Dynamics had to demonstrate that it met at least the minimum requirements in fourteen different areas. Since GD had already established a 15-point plan for its excellent minority business program three years ago, the corporation exceeded the minimum requirements in almost all cases.

Receipt of this award truly demonstrates General Dynamics' commitment to the minority business community at both the corporate and division levels.

1/10/92

First "Hard-to-Make" Part Successfully Done by Vendor

For the first time a "hard-to-make" part, in this case the Atlas fill and drain elbow, has been successfully handled by an outside vendor. The company involved is the Energy Container Corporation located in Santa Ana, California.

Energy Container Corporation specializes in the welding of aluminum and has state-of-the-art automatic welding equipment to control the weld quality, thus dramatically reducing repair requirements.

Space Systems personnel were previously hand welding the drop hammer parts to form the elbow. Due to problems encountered with aluminum, and the multiple repairs required, the weldments could not be produced economically to support the manufacturing schedule. The Atlas Program Office formed a team to evaluate possible solutions. A decision followed to place the part with an outside vendor where the automated welding process could be applied. As a result, schedule has now been obtained with a cost savings of $55,000 a unit. A cost reduction proposal was generated for approximately $1.2 million.

Space Systems personnel instrumental in achieving this success were David Carter, Jim Delano, Steve Denato, Denice Francis, Cornel King, Rick Noel, Eugene Perkins, and Frank Zegler.

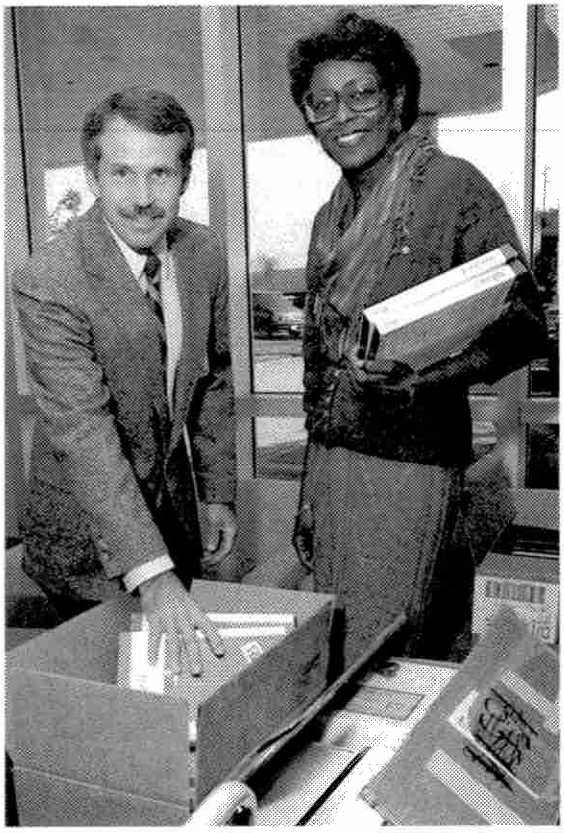
Other hard-to-make parts are currently being evaluated for outside procurement.

Excess Software Donated to GDSS Partnership Schools

Knox Elementary School of San Diego and Hilltop High School of Chula Vista were recipients of outdated versions of Apple II, Macintosh, and IBM surplus software as identified by IRM.

This is part of the division's four-year, on-going effort to assist its Partners-in-Education schools and enrich the resources of the teaching staffs to improve education. This software included spreadsheets, word processing, project planners and various graphic programs. All the software packages were evaluated for complexity for distribution to the elementary and high school sites.

This transfer was accomplished through the assistance of Tom Georgi, CSC. Tom worked with the division's NMA chapter managers of the school partnership program, Pearl Simmons, Scott Stutzman, and Bill Stewart, NMA Chapter director of Youth Activities.



Duncan Macdonald, a teacher from Knox Elementary, checks the software donated to his school with the help of Space Systems' Pearl Simmons.

WE' RE KEEPING THE ENVIRONMENT...

Space Systems Division's recycling program has racked up the following scores in savings to the environment:

- **2,679 trees**
- **107,562 gallons of oil**
- **15,129 gallons of water**
- **1,639,198 kilowatt hours of power**
- **530 cubic yards of landfill space**

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

Frank Chadwick, Engineering Specialist, 34 years

Robert Cox, Engineering Chief, 39 years

Rudy Dekkers, Engineer-QA, 25 years

Julius Hart, Engineering Specialist-Senior, 36 years

Harvey Jewett, Jr., Engineering Specialist-Senior, 30 years

Ramona Leavitt, Executive Secretary, 34 years

Joe Streetman, Chief-Project Engineer, 35 years

Maurice Tompkins, Design Drafter, 39 years

Robert Wange, Group Engineer, 14 years

Employee Suggestion Brings Air Fares Down to Earth

Michelle LeFevre, a material handler at CCAFS, was recently recognized for her employee suggestion entitled "Corporate Discount on Air Fare."

Michelle routinely makes airline reservations at the lowest fares possible for CCAFS employees requiring business travel. Due to prior experience in travel arrangements, Michelle was aware of Meeting/Corporate Fare Discounts available to companies. She contacted various airlines to ask for such discounts. After much perseverance she was able to obtain an agreement with Trans World Airlines for lower rates.

The negotiated contract with TWA saved approximately 45 percent on ticket fares between Orlando and San Diego. The suggestion has resulted in a total savings of $351,798.59 for the company this year. The contract will be renegotiated every year, bringing other airlines into the process.

Michelle LeFevre

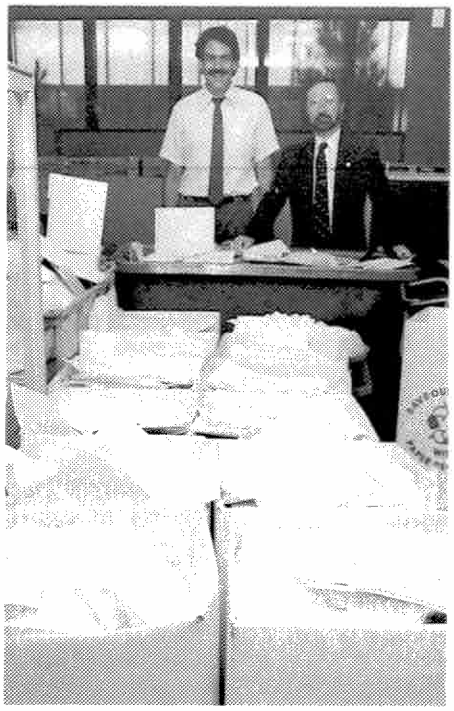
This is the largest savings to date at Cape Canaveral. Congratulations to Michelle!

Launch Date for AC101 Is Classified

The launch date for AC101 is classified as SECRET. Personnel discussing launch support for AC101 via EM/OS, Telephones, FAX, or any other means of communication must avoid discussing or revealing launch date information.

This is a contractual requirement. If you have any questions, please contact either Jim Fletcher at the Cape (407-853-7255) or Ron Davis in the Space Systems Security Office (44555).

PURGE BIN ETIQUETTE



Barry Levin of Avionics Systems (left) and Tom Edwards of Facilities show the proper way to maintain purge bins. These containers are for recyclable paper only. Please do not put other kinds of trash in them. If you need additional trash containers, contact Mike Garrett at 43285.

First Employee Earns Complete Corrosion Rating

Bill Trudeau, a quality assurance specialist at CCAFS, recently became the first Space Systems employee to be awarded the National Association of Corrosion Engineers (NACE) Certificated Coating Inspection recognition under the organization's International Coating Inspector Training and Certification program.

This rating comes after completion of the basic, intermediate, and advanced coating inspection courses. Those are followed by a peer review, which is an intensive, detailed oral examination of the candidate.

Successful completion of all sessions gave Bill specialized training in corrosion control on structural steel and aluminum products and other equipment used at Space Launch Complex 36. It also provided him specialized training in inspection techniques and the use of specialized equipment to perform non-destructive and destructive inspection of coatings applied to various substrates.

In addition, Bill has completed the NACE Protective Coatings and Linings course. He is a member of the Kennedy Space Center Corrosion Control Integrated Team, and is a member of NACE.

Bill said, "The importance of corrosion control can be best illustrated by the GNP expenditures for the cost of upkeep, which currently exceed $100 billion.

Space Systems Inventors

These employees have been credited with the following inventions. Patents have either been applied for or awarded to them by the U.S. Patent Office.

Bob Baldi, Energy Group, and **Ed Johnson**, recently retired — *Method of Making a Laminated Conductor for High Current Coils.*

Eddie Leung, Advanced Space Systems Predesign, and **Scott Peck**, Thermal Control — *Phase Change Cooling for an Electromagnetic Launch.*

Stan Maki, Avionics Systems Group — *Computer and Communications Systems Employing Universal Direct Spherics Processing Architecture.*

Steve Pidcoe, Producibility and Advanced Manufacturing Technology Group — *An Arrangement for Measuring the Field Angle of a Magnetic Field as a Function of Axial Position within a Magnet Bore Tube* and *Improved Break-Away End-of-Arm Robotic Tooling Assembly.*

ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

February 7, 1992

First SSC Magnet Test a Success

The first Collider Dipole Magnet (CDM) assembled by GDSS employees at the Fermi National Accelerator Laboratory (FNAL) in Batavia, IL, successfully passed operational tests on January 5.

Magnet DCA 313 is the first of seven magnets being assembled by General Dynamics at Fermi as part of the Collider Dipole Magnet Contract that Space Systems Division has with the Universities Research Association's Superconducting Super Collider Laboratory (SSCL). The seven GDSS-assembled magnets will be shipped to the SSCL in Dallas, where they will be connected end-to-end for use in an accelerator system string test.

"It represents a great first step forward..."

"We are very pleased with the success of this first magnet," Bob Baldi, SSC program manager, said. "It represents a great first step forward in proving that the magnet design is sound."

The design being used for the FNAL demonstration magnets is a new and improved

Please see ***SSC MAGNET*** *back page*

The GDSS Fermi Lab team (L to R): !st row (front): Keneth Hebert, Glenn Latino, Tim Addison, Joyce Miller; 2nd row: Therese Tawoda, David Griffin, Kenneth Roberts, Rosalind Henton, Richard Bilodeau, Denslay Hoffman, Michael Packer, Marlon Jackson; 3rd row: Darin Heisterkamp, Tom Costa, Chris Clutter, Don Iverstine, William Walsten, Paul Hofmeister (Westinghouse Electric Corp.), Reggie Ward, Kevin Flynn, Kurt Wamsley; 4th row: Vince Wolf, Conrad Metz, Sean O'Bar (Westinghouse Electric Corp.), Kurt Nemeth, Michael Blessing, Bruce Mahl, Jerry Huebinger, Richard Jones.

Orion Partnership Completed

Atlas IIA Chosen to Launch Satellites

On December 27, 1991, General Dynamics Commercial Launch Services received the official go-ahead from British Aerospace to proceed with launch services for the Orion satellite project.

The Orion partnership, known as the International Private Satellite Partnership (IPSP), bought two Eurostar 2000 satellites from British Aerospace, which subsequently selected Commercial Launch Services to provide Atlas IIA launches in mid-1994 and mid-1995.

"This project, which has been in the making for over two and a half years, reflects the creativity and persistence that is sometimes required to be successful in the launch services market," Charlie Lloyd, division vice president and managing director of GDCLS, said. "In total, this agreement will generate over $200 million in revenues for the Atlas business."

ORION

Orion is the second organization formed to provide private international satellite services to both the United States and Europe. These services will include data transfers between banks, voice communications between company installations, and videoconferencing.

The international character of the partnership is the most significant aspect of this new venture. The partnership consists of companies from around the world including British Aerospace (UK), Matra (France), Kingston (UK), STET (Italy), Nissho Iwai (Japan), Com Dev (Canada), and General Dynamics.

Textron to Acquire Cessna Aircraft

General Dynamics Corporation recently announced the sale of Cessna Aircraft to Textron, Inc., for $600 million. This acquisition is to be final as of March 31.

"Despite Cessna's leadership in general aviation aircraft, our shareholders were not realizing its full value because it was overshadowed by our multi-billion dollar defense business," William A. Anders, General Dynamics chairman and chief executive officer, stated. "This transaction captures that value for shareholders and is consistent with our strategy to maximize shareholder value and focus the company on our core defense competencies."

Approximately 5,400 Cessna employees will be joining the Textron organization after the sale is finalized. Based in Wichita, KS, Cessna is the world's leading designer and manufacturer of business jet and utility turboprop aircraft. The company's premier aircraft, the *Cessna Citation,* is known for its superior performance, attractive price, versatility, safety, and reliability.

Textron is a multi-industry company with operations focused in three business sectors: Aerospace Technology, Commercial Products, and Financial Services. Cessna is seen as an added strength to Textron's Aerospace Technology Group, according to Textron President and Chief Executive Officer James F. Hardymon.

The Cessna Citation

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week of January 17, 1992)

Cape Canaveral	562
Harlingen	347
San Diego	3,226
Vandenberg	258
Other Offsite Locations	92
TOTAL	4,485

TQM Training in 1992

The Orbiteer recently interviewed Ken Gowen, Human Resources manager, about the coordination of TQM training at Space Systems Division. The following is a result of that visit.

Ken Gowen

What role does training play in a Total Quality Management effort?

Organizations must continuously improve to establish and maintain a competitive edge. Quality is the strategy in this effort. This requires providing employees with the skills to continuously improve work processes. Effective training translates statistical principles and quality concepts into guidelines the employee can use everyday.

What TQM training is available and who conducts it?

The division currently has five TQM courses: Statistic Process Control (SPC) Implementation, Process Action Team training, Management training, Quality Basics, and Concurrent Engineering. Most of these courses are taught by our Organizational Effectiveness trainers. We also use subject matter experts and outside sources for some of our courses.

To what do you attribute the favorable response to the TQM training?

First of all, a great training staff! Secondly, employees find the training "makes sense." The skills they are learning are immediately applicable to their jobs. Finally, I believe our approach of involving our internal customers in the design of the training has been a key. An example of this is the modular design of SPC training. The Production department preferred this over the traditional approach that takes people off the shop floor for five consecutive days. This design is referred to as "Just In Time" training. The participants learn a tool in class and then apply it to their processes. They don't attend the next module until they have applied what they've been taught. Experience has proven that if people don't use the skill, they lose it. Retraining is expensive.

How do you determine whether a TQM training course is effective?

Effectiveness must be measured by the training objectives. Are the participants doing what the course was designed to train them to do? Are those behaviors getting the desired results? If you aren't satisfied with the answers to those questions, you must review your course's objectives, design, and the manner in which it is being taught.

What advice do you have to ensure the best transfer of this type of training?

When employees finish training, management must coach and encourage them in the use of TQM principles and tools. We also need to be patient as we learn to apply quality tools. TQM skills such as SPC, problem solving, and meeting conducting all take time to develop. The classroom provides a knowledge base and some hands-on experience, but we don't perfect the skills until we begin trying them in our jobs.

What's in store for TQM training in 1992?

We will continue to provide the courses in our current curriculum. As new requirements are identified, we will need more advanced training. It's very important to realize that training all our employees cannot happen overnight. Each division staff member has developed a 1-3-7 year TQM plan. In most of those plans, training plays a big part, but as with any part of the business, we have to work within our financial constraints. It won't all happen in 1992. There are ways of getting knowledge about TQM other than formal training. Managers can educate employees by taking a portion of each weekly or monthly employee meeting to include some aspect of TQM. There are also a lot of articles and books on the subject. John Thacker, division vice president of Quality Assurance, has designated an office in KM-24, 1st floor, as a Continuous Improvement Resource Center where employees are able to check out books, magazines, videos, and audio tapes for personal use.

2/7/92

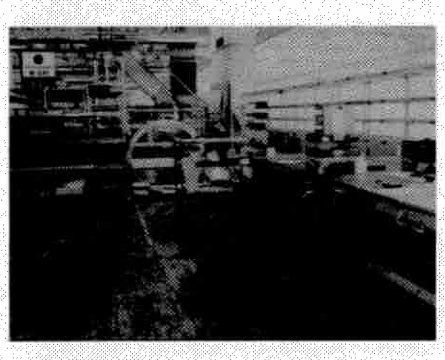
Material Operations Improves Stockroom

Material Operations teams at Kearny Mesa and Plant 19 recently implemented an on-hand kitting process to improve their parts supply service to production personnel.

Evaluation of stockroom processes was initiated after Material Operations reviewed the standard hour load for the Production department. It was found that the majority of work planned for production was held in the stockroom due to a lack of material. Brad Yates of Capacity Planning documented the kitting process to determine if opportunities for improvement existed. The objective of the evaluation was to find a way to reduce kitting lead time, reduce processing costs, and improve customer service.

The result of Brad's study was the design and implementation of a system that generates a "Pick List" for an order when all parts were on hand. The Pick List eliminates the need for multiple Material Requisitions and provides locations for the material. When the kit is filled, the assets are removed from inventory and issued to production via a single issue transaction.

Testing of the system began in August 1991. During the testing phase, the Material Operations teams prepared for the transition to on-hand kitting and input the locations of the material into mainframe systems. The system was validated and implemented on September 30, 1991.



Kit staging has been eliminated as a result of the on-hand kitting process.

Customer service was improved with the kitting lead time reduced from ten days to two days. The savings in processing costs amounted to $296,000 annually. Dave Barry, Plant 19 site director, commented on the new system saying, "It is a 'walking-on-water' project that yielded fantastic results."

Joe Chagoya and Greg Morrow review an incoming picklist from Kearny Mesa stores.

Kelly Fowler and Cindy Oxford issue material with a single transaction from the "Kits" data base.

Ken Roberge uses the picklist to identify the location and quantity of material required to fulfill the kit.

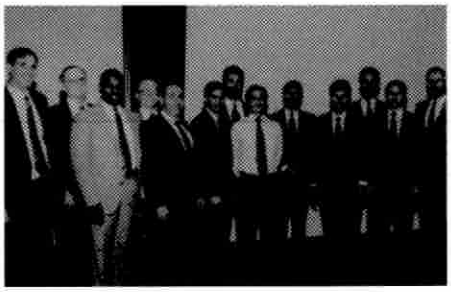
Facilities Service Engineers Complete Training Program

Eleven facilities service engineers, cross-training in industrial engineering, recently completed a 16-session training program titled *Industrial Engineering — How To Do It.*

The course was taught by Don Evanson, with Marge Longo and Joe Lemmo assisting. The instruction covered multiple subjects including organizational structure, schedules, contracts, manufacturing plans development, learning curves, methods improvement, proposals, facilities planning, engineering drawings, manpower control, plant layout, and policies and procedures.

Don Evanson, who has taught this certified program since 1972, has continued to provide updated sessions over the years to ensure that new industrial engineering employees or employees doing industrial engineering work receive the proper training.

Ed Squires, division vice president of Production, presented the graduates with certificates of completion.



Participants in the special industrial engineering course are, from left to right: Mike Gass, program director; Ron Bennett; Craig Crosby; Damien Donnelly; Harry Estline; Steve Sarafa; Pat Chien; Mark Wagner; Bret Vonder Reith; Ron Green; Brad Boulais; Ed Squires, division vice president of Production; and Don Evanson, instructor.

Launch Hotline

A launch hotline has been established to provide employees with the latest information relating to upcoming launches. The hotline will be activated four days before a launch.

573-8769

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

Robert J. Arpin
Engineering Specialist ..... 28 years

David S. Carpenter
Engineering Drawings Checker ..... 23 years

Ernesto A. Cornejo
Custodian ..... 12 years

Adam G. Gianas
Mockup-Tooling Builder ..... 7 years

Eddy N. Hose
Project Engineer - Sr. ..... 6 years

Henry G. Mileur
Engineering Specialist ..... 36 years

James E. Mulkey
QA Representative - Sr. .... 20 years

Robert R. Myers
Material Project Analyst .... 23 years

Charles M. Ray
Group Leader - IAM ..... 20 years

Harold J. Rinard
Group Leader - IBEW ..... 13 years

Plant Security Measures Under Evaluation

With the recent shooting incident at the Lindbergh Field Plant, employees may be concerned about GDSS security.

"All three divisions are presently reassessing existing security policies and procedures," Dr. Roberta Baade, division vice president of Human Resources, said.

Baade also said they will be determining whether additional security measures are needed.

"Plant protection officers have been instructed to increase their level of vigilance in checks of incoming briefcases, purses, and packages," Ron Davis, director of security, said. Davis requested that employees increase their sensitivity to security issues.

"If any employee suspects a serious threat, they should immediately contact the Security department," he added.

The Industrial Security department can be reached at 44622.

SSC Magnet

Continued from front page

design over magnets previously built as prototypes for the program by National Laboratories. Presently, GDSS is completing the final design of the magnet that will eventually enter rate production.

The 26 GDSS technicians and engineers at Fermi Lab, under the leadership of Mike Packer, were selected from over 2,400 candidates in Hammond, LA and surrounding areas. They are the first employees to be assigned to the division's Hammond Facility. Once the FNAL demonstration program is complete, the team will return to Hammond and begin the task of assisting in the transition of the manufacturing aspects of the program from San Diego.

"The GDSS Fermi team has done a tremendous job," according to Dino Salvador, division vice president and Hammond plant manager. "They have proven that industry can successfully build high-technology magnets that meet all the design and operating specifications. We are very confident that transitioning the production to Hammond this year will be very successful based on the team's valuable experience."

The SSC program schedule currently calls for the first magnet to be manufactured in Hammond in October 1992. During the first phase, 298 magnets will be built. In 1994, GDSS and Westinghouse will compete for the rate production phase of the program, which involves building over 8,150 magnets.

Maternity Fraternity Offers Free Seminar

The Maternity Fraternity will be offering a free seminar on "The ABCs of Healthy Childbearing" and "Premature Labor," at 11:00 a.m., February 12, in the Kearny Mesa Building 24 Conference Center (Max room). This seminar is open to all GDSS employees and their spouses who are interested in seeking prenatal care and in learning about having a healthy baby. Contact Elaine Briggs at 43586, or Becky McDonald at 44135, for reservations and more information.

EAP Counseling Available for Employees

In the aftermath of the tragedy at Convair's Lindbergh Field Plant on January 24, many Space Systems employees have been facing mixed emotions concerning the shooting and the events surrounding it.

The Employee Assistance Program (EAP) is providing counseling to encourage employees to voice their concerns. Group and individual sessions for both supervisors and employees were held throughout the division the week following the shooting.

Employees were invited to meetings to discuss their personal feelings about the past week's events. Many expressed concerns about employee safety at the workplace, layoffs, stress, and the various facts about the incident.

Paul Cleary, a senior consultant with National Resource Consultants, Inc., assists with Space System's EAP. He said it is a natural reaction for people to feel anger, vulnerability, fear, and confusion toward the situations surrounding a tragic event. As part of the grieving process, people need to discuss their feelings with others, such as in the group sessions held through out GDSS.

"Although on-site sessions are ending, we invite anyone who has any concerns about anything related to the incident to contact us," Cleary said. " We have evening and weekend hours, the counseling is confidential, and it doesn't cost anything."

Employees needing this support can contact the EAP at 291-0330.

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

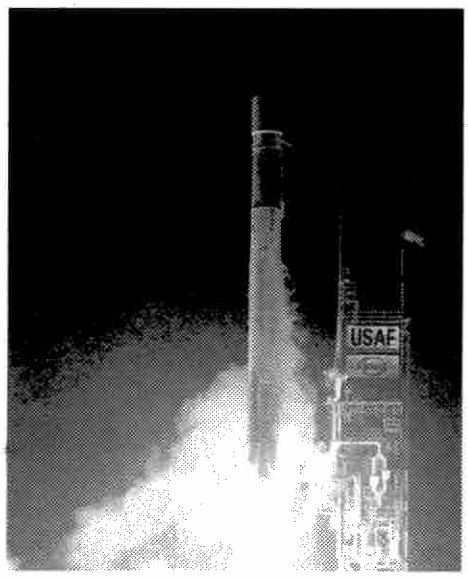
February 21, 1992

Atlas II Lifts DSCS into Orbit

Atlas/Centaur 101 successfully launched from Cape Canaveral Air Force Station at 7:41:02 p.m. on February 10, carrying a Defense Satellite Communications System (DSCS) satellite into space.

This launch was the first in the Air Force's Medium Launch Vehicle II program. It was also the first launch operation carried out from Complex 36A since 1983, when an Atlas/Centaur successfully boosted an Intelsat V communications satellite.

"This was a perfect example of how good teamwork pays off."
- Carl Watson, launch service technician



AC-101 lifts off of SLC-36A, carrying the DSCS payload into space.

"We're extremely pleased with the flawless performance of the Atlas II in launching this very important payload for our Air Force customer," Michael Wynne, corporate vice president and Space Systems Division general manager, stated. "This is a big boost to our launch vehicle business as we continue to grow and sell

Please see **DSCS** *back page*

Building on Success in 1992

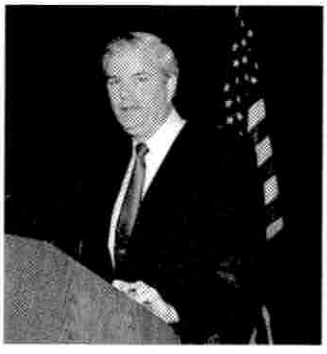
Wynne Delivers State of Division Address

"Time has moved on and the use of expendable launch vehicles to deliver payloads into orbit has become almost commonplace," Michael Wynne, corporate vice president and general manager, said as he began by reflecting on the history of the space industry in his State of the Division speech at the February 6 National Management Association dinner meeting.

Mr. Wynne used this meeting as an opportunity to discuss division successes in 1991, and goals and challenges in 1992.

He recapped 1991 successes that all Space Systems employees should be proud of: the launch of 53E at Vandenberg, the 500th Atlas; the completion and launch of AC-102, our first Atlas II; the delivery of Titan/Centaurs 9 and 10; the Superconducting Super Collider contract and Hammond Facility Grand Opening; and the close of the ORION partnership for Commercial Launch Services.

"I think, however, that our greatest success in 1991 was the recognition by each of us that customer service, both externally and internally, is all of our responsibility, and that we are in a business which must be profitable and high in quality," Wynne said. Continuous improvement in the workplace and how we approach our business help us to



Michael Wynne speaks at the annual State of the Division NMA dinner meeting.

set the standard of becoming the best in space, he added.

One example of this is the restructuring of the way the division manages its business. The Atlas, Titan/Centaur Upper Stage, and Advanced Launch System programs have been aligned into the "Space Launch Vehicles and Services" business area in order to make the most optimal long-term business and

"Our plan remains to fulfill the vision of being the 'best in all of space and energy.'"

investment decisions. The division's second business area is Energy programs, which concentrates on superconducting magnet applications.

"The challenge of reliability, mission assurance, or product assurance must underscore our entire year in both magnet and launch vehicle products," the general manager said. "In order for the division to be better prepared to meet the challenges of the coming year, I am implementing an internal plan, which will become our 1992 sales and operation plan – giving us a single plan that is responsive to all our targets and goals for this year."

This plan defines the critical business milestones for 1992. They are to: achieve eight successful Atlas/Centaur launches, achieve two successful Atlas E launches,

Please see **State of Division** *next page*

State of Division Address

Continued from front page

deliver three defect-free Titan/Centaurs, complete six prototype dipole magnets, initiate magnet production start-up in Hammond, win more than $20 million in long-term engineering opportunities, and add six additional commercial and government launch commitments to the Atlas program.

The best strategy for Space Systems is to be recognized as a high-quality/low-cost provider of space and energy products and services. This necessitates continued streamlining of our operations and the continued search by each of us for opportunities to increase efficiencies. 1992 is the time to execute those opportunities.

"Our plan remains to fulfill the vision of being the 'best in all of space and energy,'" Mr. Wynne said in closing. "Fulfilling this vision will brighten our future as a business unit, and provide the security we all desire. Demonstrated total quality and performance will merit us a strong market position and continue our attractiveness to both the customer community and General Dynamics."

Space Systems Teams

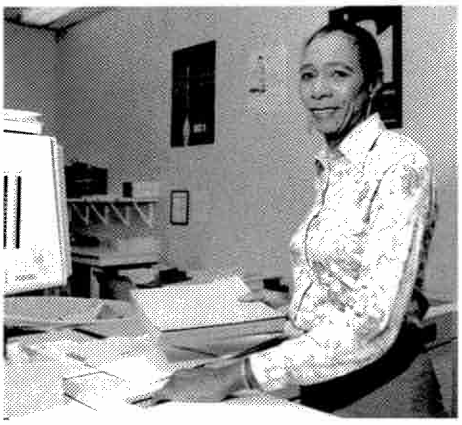
Copier Services Team Provides Division Copying Support

The purpose of the Space Systems Division's *Orbiteer* is to report the way teams of employees work together, to show the superior products they produce, and the excellent services they provide.

The Copier Services department has provided graphic reproduction support to Space Systems since 1988. Through copy center support and placement of self-service copiers, this team has been able to provide quality bond copying to their customers – the employees of Space Systems Division.

Employees are encouraged to use the Copier Services resources, which are set-up to provide cost-effective, quality reprographic products.

The main copy center, located in Kearny Mesa Building 26, 1st floor, provides services such as perfect binding (book bind), comb binding, tab printing,



Eulah Marshall, a 34-year employee of General Dynamics, copies handbooks for a customer.

The Copier Services team (left to right): Eulah Marshall, Mary Piper Jones, Gary Kinshofer, Rae Blaha, Craig Crosby, Toni Griffith, and Carol Aguilar. Not pictured: Ron Bennett.

and 11" x 17" copying. The center's production hours are from 6:30 a.m. to 3:00 p.m. Customer service hours are from 7:30 a.m. to 4:00 p.m. The center also provides job pick-up and delivery at Century Park Building 3, 1st floor at 8:00 a.m. and 3 p.m. daily.

For employees' convenience, Xerox and Konica self-service copiers are placed throughout the division. The Copier Services team provides delivery of all paper and supplies to these copiers. Machine repairs are handled directly by the service companies, whose numbers are listed on each machine.

The Copier Services team is ready to assist with the reproduction needs of all division employees. If you have any questions regarding the cost saving services provided by this department, please contact Carol Aguilar at 41003 or Ron Bennett at 75808.

Clean Room Suits To Be Recycled

On January 16, Space Systems Division's Facilities organization awarded a contract to Millers Precision Enterprises Inc. of Shererville, IN for the recycling of all disposable clean room suits used at the Kearny Mesa Plant.

These garments, which include smocks, boot covers, and hoods, will now be collected in the Building 5 100,000 class clean room change room. They then will be sent to MPE, Inc., where they will be cleaned and dispensed to businesses who have cleanliness standards below the 100,000 class.

"This new program will have a positive effect on the environment," Tom Edwards of Facility Services said. "Space Systems' clean room garments will no longer be sent to the landfills."

The clean room garment recycling program is the second phase of GDSS's recycling program. The division has been involved in office paper recycling, the first phase, for 14 months.

Volunteering Opportunities

Volunteer hours donated by General Dynamics employees to community relations activities is an on-going process that is greatly appreciated. Employees may be interested in volunteering their time and support to the following upcoming volunteer activities in our area:

The 1992 Junior Achievement Bowl-A-Thon – Anyone can participate in this March 7 event. Teams of five compete for prizes. The fundraising comes in when the teams get sponsors to pledge money for every point scored during three games of bowling. For registration forms or additional information, contact Deanna Wheaton at 73234.

The Arthritis Foundation's Mini Grand Prix – Race day is March 7 at Jack Murphy Stadium. Volunteers are needed to help with setup on Friday evening and all day Saturday. Call 492-1090 to volunteer, or contact Yolanda Mendoza at 79036 for additional event information.

2/21/92

Employees Receive Shareholder Value Awards

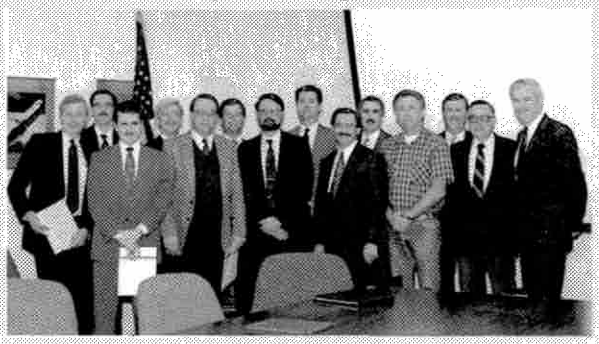
On January 27, 15 Space Systems employees were presented with "Shareholder Value Awards" by Michael Wynne, corporate vice president and general manager. The awards are part of a corporate program in which employees are recognized for significantly contributing to the corporation's shareholder value.

The following GDSS employees were recognized for their contributions during 1991:

- **Bruce MacRobbie**, industrial electronics electrician, who was a leading member of the Maintenance Process Action Team that improved the maintenance acceptance process for new facilities, resulting in lower inventory costs.
- **Dave Parsons**, manager of Subcontracts – Procurement, who implemented changes within the Material organization, resulting in $2.3 million in division savings.
- **Chris Getner**, Division Planning chief, who had a key role in establishing an analytical methodology for assessing the viability of the Atlas program and its potential financial performance.
- **Robert Baldi**, SSC program manager, who assisted in the negotiations of the final Collider Dipole Magnet contract with the SSC Laboratory.
- **Richard Flowerree**, IRM program manager, who lead the consolidation of division telephone and EM/OS systems, resulting in the saving of $1.3 million.
- **Pete Morris**, MRP II manager, who developed the division's overall MRP II project structure.
- **Jim Rager**, senior project engineer – Atlas, who implemented Atlas IIAS design and systems requirements changes.
- **Gene Perkins**, Atlas program manager, who instituted system changes to prioritize shortages and reduce the overall production backlog.
- **Bob Parker**, Engineering manager, whose downsizing of the Avionics labs reduced the book value of capital inventory and required lab space.
- **Steve Kewely**, Engineering manager, who developed an implementation process that greatly reduces the span time required to hold production inventory.
- **Tom Dobyns**, Production manager, who was a member of the division's asset reduction team.
- **Mike Morgan**, Material Support manager – Harlingen Facility, who initiated an Inventory Reduction program at the Harlingen Facility.
- **Mike Short**, Estimating manager, who played a key role with the Atlas viability study.
- **Mike Gusha**, Quality Assurance director, who was a manager of the division's asset reduction team.
- **Bob Risely**, Material program manager, who was a manager of the division's asset reduction team.

MacRobbie received two first class round-trip tickets to Hawaii for his contributions. Parsons, Getner, and Baldi each received two first class round-trip tickets for anywhere in the continental United States. The other winners received Extraordinary Achievement awards.

Division staff members were asked to nominate employees for the Shareholder Value Awards. Candidates were required to have a contribution or achievement that impacted shareholder value in the areas of operating working capital reduction, critical organizational change, integration between other working capital teams, or conceptual "improvement" processes.



1991 Shareholder Value Award Winners (left to right): Bob Risely, Steve Kewely, Chris Getner, Bob Parker, Dave Parsons, Mike Short, Rich Flowerree, Pete Morris, Bob Baldi, Mike Gusha, Bruce MacRobbie, Tom Dobyns, Jim Rager, and General Manager Michael Wynne. Not pictured: Gene Perkins and Mike Morgan.

AC-72 Launch Viewing

All Space Systems employees are invited to view the live satellite coverage of the AC-72/Galaxy V launch scheduled for February 27.

The launch can be viewed at the following locations:

- KM Building 24, 1st floor, Conference Center
- KM Dining Center
- KM Building 5, 1st floor, Mock-up area, Col. J/K 5

The launch window extends from 3:08 p.m. to 6:36 p.m. PST, with a few hold periods in that time frame. Satellite coverage will begin at 2 p.m. PST and will continue through successful separation of the spacecraft from Centaur.

For additional information concerning this upcoming launch, call the Launch Hotline at 38769.

HUGHES COMMUNICATIONS

GALAXY

CRA Travel Offers Trip to See "Phantom"

If you have ever wanted to see the musical "Phantom of the Opera," here's your chance. CRA Travel is offering a deal that can't be beat. For $92, you can reserve your seat for transportation and theatre tickets for the Los Angeles production of this famous musical in the Ahmanson Theatre. The show is at 7 p.m. on April 4. Please contact CRA Travel at 38348 for more information.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week of February 7, 1992)

Cape Canaveral	554
Harlingen	343
San Diego	3,185
Vandenberg	254
Other Offsite Locations	99
TOTAL	4,435

Michael Konz Memorial Scholarship Established

General Dynamics has established a memorial scholarship at Arizona State University in Michael Konz's name. Michael died in the tragedy at Lindbergh Field a few weeks ago. General Dynamics will make a substantial initial contribution. Employees wishing to make personal contributions may send their gifts to:

Michael M. Konz Memorial Fund
c/o Arizona State University Foundation
Office of Development
Tempe, AZ 85287-0904

Gifts of $50 or more will be matched by the company. These checks must be made payable to ASU Office of Development to be matched. Designate in the memo space that it is for the Konz fund. You can pick up a Matching Gifts form at Century Park Building 2, 2nd floor, Community Relations, or call Yolanda Mendoza at 79036 to have a form mailed to you.

DSCS Launch

Continued from front page

reliable launch services to all of our customers – Air Force, NASA, and the commercial market."

Space Systems Division successfully competed for the MLV II program in 1988. In May of that year, the Air Force announced GDSS as winner of the competition. In June, the Air Force awarded a fixed-price contract for two Atlas II vehicles with prepriced options for future launches.

The DSCS spacecraft was built by General Electric Astro-Space Division, under a contract to the Air Force Space Systems Division. The satellite joins an aging constellation of similar satellites already in orbit. Operating in a geosynchronous orbit, the satellite will provide the Department of Defense with secure communications around the world.

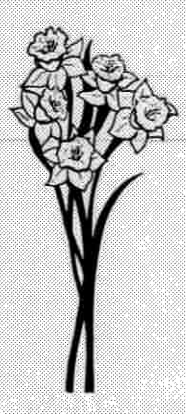
GDSS has invested over $140 million in refurbishing both launch pads at Complex 36. Inactive since 1983, Pad A was extensively refurbished and became operational with the DSCS launch. The pad's mobile service tower was refurbished and lengthened to accommodate the taller Atlas II, a new umbilical tower and foundation was constructed, launch control equipment was updated, and a new environmental control system building was completed to provide equipment and shelter for payload cooling and conditioning.

> "After all of the hard work during the build-up and refurbishment on the launcher, it was a great feeling to see it go successfully. Everybody did a great job."
> *- Kevin Atwood, launch service mechanic*

"This launch involved a lot of extra effort by a lot of fine people at CCAFS, San Diego, Vandenberg AFB, Harlingen, and our major subcontractors," Frank Watkins, director of base operations at CCAFS, said. "Congratulations to this outstanding team for giving the DSCS III satellite a flawless ride!"

Beth Littlefield contributed to this story.

American Cancer Society Presents 9th Annual Daffodil Days



April is Cancer Awareness month. In order to develop public interest in the American Cancer Society's work, the non-profit organization presents *Daffodil Days*, a major fundraising event.

General Dynamics is participating in this fundraising effort by giving employees the opportunity to purchase the society's daffodils. Bouquets of 10 flowers are $5, and vases with the *Daffodil Days* logo are $2. Funds raised by this event are used to support research, patient services, and educational programs.

All flower orders must be received no later than March 4. The flowers will be available March 30. To order the flowers, please fill out the form below. For additional information, contact Karin Dinan at 39955.

Name _____ Mail Zone _____ Ext. _____

1) Method of Payment:

_____ Check Enclosed (payable to American Cancer Society)

_____ Visa/MC # _____ Exp. Date _____

Signature _____

2) Quantity:

_____ Number of Bunches x $5.00 = $_____

_____ Number of Vases x $2.00 = $_____

Total Amount Enclosed ..... $_____

AMERICAN CANCER SOCIETY®

3) Please return completed form to Karin Dinan at Mail Zone 11-1330

SSD

Space Systems Inventors

These employees have been credited with the following inventions. Patents have either been applied for or awarded to them by the U.S. Patent Office.

Andy Pruitt of the Electro-Optical Tecnhology group, for his invention titled: "Method and Arrangement for Compensating for Frequency Jitter in a Laser Radar System by Utilizing Double-Sideband Chirped Modulator / Demodulator System."

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

March 6, 1992

Bush Launches International Space Year

On January 24, President George Bush initiated the International Space Year (ISY), a year-long, worldwide celebration of space cooperation and discovery.

Throughout the year, 29 space agencies and ministries from around the world, ten international organizations, and the United Nations will celebrate the spirit of discovery and will work together to promote a new era of global cooperation and to increase public knowledge of the planet Earth.

NASA has been designated by Congress as the lead U.S. agency responsible for developing and monitoring ISY events domestically and internationally. Dr. Lennard Fisk, NASA's Associate Administrator for Space Science and Application, is lead representative for the U.S. ISY initiative.

International activities for ISY are being coordinated by the Space Agency Forum of ISY (SAFISY). SAFISY has identified Mission to Planet Earth as the primary theme for the year. Scientists around the world are observing and studying the planet to better understand the complex interactions between land, water, air, and ice, and to assess such threats as global warming, deforestation, and ozone depletion.

A worldwide celebration of space cooperation and discovery has begun.

NASA's Mission to Planet Earth began in 1991 with the launch of the Upper Atmospheric Research Satellite and will continue in 1992 with Spacelab, an international mission that will study the Earth's atmosphere and the sun.

Throughout the International Space Year, hundreds of educational programs and public events are planned around the world to highlight discovery, exploration, and humanity's future in space.

ISY

The U.S. International Space Year Association (US-ISY) was established with support from NASA to provide information on ISY events. This group publishes a list of activities that can be obtained by writing to: US-ISY, 600 Maryland Ave., S.W., Suite 600, Washington, D.C., 20024.

AC-72/Galaxy V Launch

At print time for this issue of the *Orbiteer*, AC-72 had not launched as originally scheduled. Due to the launch delay, we are not able to print an article about the launch at this time. We plan on covering this event in the *Orbiteer* issue that follows the launch.

Passing of the Gavel. *On February 12, the Executive Advisory Board (EAB) gavel was officially handed to the new board chairman, Herb Rogers. Shown above are Mr. Rogers, Mr. Michael Wynne, and Mr. Dick Adams, the outgoing EAB chairman.*

The Space Systems Division Executive Advisory Board was established in 1988 to provide guidance and counsel on issues critical to the division as well as the space industry. The board meets quarterly in San Diego, and is comprised of corporate and division consultants.

Whom Do You Call?

Business Ethics or The Ombuds Program?

If someone is treating you unfairly in the workplace, would you know whom to call? Whom would you contact if you thought a co-worker was committing time card fraud?

The immediate response by many employees to these questions would be to call the Business Ethics Hotline. But did you know that Human Resources has a service available to employees who may have concerns about problems in the workplace?

The Business Ethics hotline was established by the corporation to handle questions regarding the meaning and application of the "General Dynamics Standards of Business Ethics and Conduct." These standards include guidelines on conflicts of interest, time card reporting, suppliers and consultants, security, political contributions, and expense reporting.

Specifics on these areas and others are defined in the standards booklet which all employees receive when they are hired by General Dynamics. General Dynamics' commitment continues to be that all Business Ethics allegations will be investigated and corrective action and reporting to the appropriate government officials will take place as required.

Fran Richardson is Space Systems' Business Ethics director. She also handles Equal Employment Opportunity/Affirmative Action issues. Fran answers all calls to the hotline.

The standards booklet gives directions in areas of daily business activity where possible problems of conduct could occur. If you feel that there is a problem with any of the standards referred to in this handbook, please contact the Business Ethics Hotline at 43263.

In 1987, the corporate office sent out a memorandum (memo no. SCP-87-08) notifying all employees of the establishment of a Human Resources hotline that deals with calls relating to employee or personnel concerns. The Personnel or Ombuds Hotline opens another significant means to hear and respond to employee relations matters. At Space Systems Division, this hotline is handled by Michael Felchlin, who is also the administrator of the GDSS Employee Assistance Program. The EAP provided services to employees following the tragedy at Lindbergh Field earlier this year.

According to the 1987 corporate memo, the Personnel Hotline is "dedicated specifically to calls concerning the commitment in the Standards that states, 'As employees, we will treat one another fairly and with the dignity and respect due all human beings.'" If you would like to report or discuss a problem with the ombuds representative, please call the Personnel Hotline at 44790.

"We want employees to learn about the two hotlines offered in order to properly distribute the hotline calls, so that all employees are adequately served," Dr. Roberta Baade, division vice president of Human Resources, said. "We do not want to turn callers away, we simply want to steer them in the right direction."

All calls to the hotlines will be answered, regardless of what issues are addressed.

"There are several instances when a call to the Personnel Hotline also deals with a business ethics issue," Mike Felchlin said. "Fran and I work together on these cases." All calls to the hotlines are confidential, he added.

Fran Richardson and Mike Felchlin review guidelines concerning the Business Ethics and Personnel Hotlines.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending February 21, 1992)

Cape Canaveral	555
Harlingen	342
San Diego	3,176
Vandenberg	256
Hammond	66
Other Offsite Locations	37
TOTAL	**4,432**

New Department Security Representative Program in Full Swing

Industrial Security kicked off its new Department Security Representative program at the November 1991 Quarterly Security Representative meeting.

The primary goal of this program is to develop a quality, progressive security program. More specifically, the program is designed to enhance security education and awareness of all GDSS employees, and flow down requirements received by the Department of Defense.

The program has established a viable network of Security Representatives through whom communications are passed to all employees. Representatives act as liaisons between Industrial Security and their own departments. They also play an important role in assisting in preparing for and successfully passing Defense Investigative Service inspections.

In order to achieve the goals set forth in this program, the Security Representatives receive training that enhances their level of security knowledge and awareness. Attendance at quarterly Department Security Representative meetings is one means of providing each representative with a clearer understanding of established security policies and procedures.

Once the Security Representative becomes more knowledgeable of the security program, his or her resourcefulness to the department and Security becomes invaluable.

At this time, there are 87 Security Representatives, each representing a different department in the division. If you are not sure who your Department Security Representative is, either ask your supervisor or contact Industrial Security at 44563.

3/6/92

Do Auditors Make You Nervous?

GDSS Implements New Auditing Procedure

By Diane Fritts, Quality Assurance Systems Effectiveness Audit

Do you know how it feels when an auditor looks over your shoulder, watching every move you make? Suddenly your skin tingles, palms get sweaty, and you realize that you can't keep a steady hand. In fact you become so self-conscious, it's hard to remember how to do what you have done hundreds of times before.

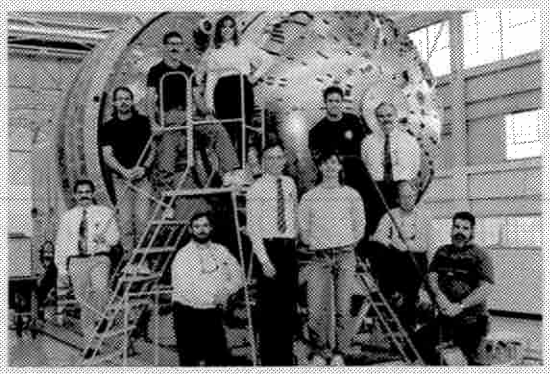
Well, the Quality Assurance Systems Effectiveness Audit group is looking at a new method of auditing called Process Proofing. W.R. (Bud) Tasch, who works for Martin Marietta Corporation's Mission Success Audit group, demonstrated a Process Proofing procedure to our internal audit group on the Tank Wash process at Plant 19.

The Process Proofing technique's underlying principles are to focus on certain processes from start to finish, while recognizing customer-supplier relationships (internal and external). The technique relies on the process owner as an audit team member (the experts in the workplace), and is done in a non-confrontational manner. In other words, the aim is to improve the process, not blame the process owner. As a result, both the customer and supplier benefit.

GDSS auditors plan to utilize these principles with their internal and external audits in the future. Our ultimate goal is to partner with the process owners to find potential improvements to the process, while making everyone feel comfortable as they become a part of the audit team. No more uncontrolled nervous systems and fast-flowing adrenaline. With Process Proofing, we are all one team.

And what were the results of the audit at Plant 19? Well, of 38 recommendations for improvement written, 27 were found by the process owners, rather than the customer auditor. Once the recommendations for improvement are put in place, wash station work may be reduced to one-fifth of the presently required time.

The management at Plant 19 is excited about Process Proofing. They will be using the audit technique internally on a continuous basis. Thanks to our Ideal Customer, Martin Marietta Corporation, for making it so.



The Process Proofing team stands in front of their first joint project – Titan/Centaur-14, at Plant 19. In front (left to right) are Jay Morgan, W.R. (Bud) Tasch (Martin Marietta), and Aaron McCormick. On the ladders in the back are Jose Gutierrez, Mark Wheelus, Neil Miller, Diane Fritts, Ron Olson, Claude Wagner (Martin Marietta), Joe Duffie, and Jerry Durden. Mike Jones is not pictured.

TQM's Wheel of Fortune

By Lou Brewer, Division TQM Coordinator

In the January 24 issue of the *Orbiteer*, I wrote an article entitled "TQM – A Way of Life." In an effort to de-mystify and simplify this thing called Total Quality Management, I discussed four fundamental behaviors followed by those who use TQM.

Imagine my surprise when I later discovered that Research and Engineering had chartered our Organizational Effectiveness group to put together a Quality Basics training course designed around the same fundamental TQM behaviors, plus a few more that I had not yet considered.

These "Quality Principles" are depicted in the Quality Principles Wheel shown above. It is a simple, yet elegant portrayal of the principles which are the foundation of any effort that embodies the spirit of TQM. To this wheel, we added our TQM platform for this year: "Continuous Improvement – the thing to do in '92."

The Quality Principles Wheel was presented to the TQM Executive Steering Committee and approved for use as the standard by which to assess whether the things we do truly encompass TQM. In fact, the TQM department coordinators were asked to review the various projects and initiatives their organizations have undertaken since the start of 1991, using the Quality Principles Wheel as a "filter" to assess whether Continuous Improvement was at work in their organizations.

I expected to receive 15 to 20 items. Instead, I was absolutely overwhelmed by the response! With only two-thirds of the organizations reporting, I have

Please see **TQM** *on back page*

Lock-out/Tag-out Procedures Revised

The Occupational Safety & Health Administration recently revised standards on Lock-out/Tag-out procedures. These standards now mandate training for employees whose jobs require them to operate machines or work in areas with machines requiring Lock-out/Tag-out procedures. If your job falls into these categories, please contact your training coordinator for information concerning these training courses .

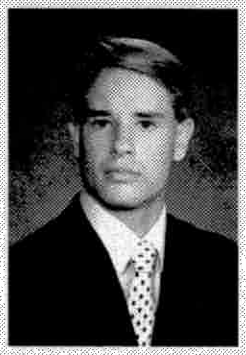
1992 PacBell phonebooks will soon be distributed throughout the division. Please place your old phone books in the hallway recycling stations for pickup.

Mosher named AIAA Young Engineer of the Year

Todd Mosher, a Space Systems engineer located in the Huntsville, AL, office, was recently selected as the Young Engineer of the Year by the Alabama-Mississippi section of the American Institute for Aeronautics (AIAA). The AIAA awards this honor as a part of Engineer's Week each year.

Todd's participation in the AIAA during the past year has been notable. He serves as chairman of the AIAA committee on Space Launch Vehicle Standards. He also was a speaker at the AIAA/Society of Logistics Engineers (SOLE) Space Logistics Symposium this past November.

An author of several technical papers, Todd serves as a lecturer at the U.S. Space and Rocket Center. He also participates in a Huntsville community outreach program.



Todd Mosher

Todd received his Bachelor's of Science degree in Aerospace Engineering from San Diego State University and is scheduled to complete a Master's of Science degree in System Engineering from the University of Alabama in Huntsville this summer.

Prior to moving to Huntsville, Todd worked on the Advanced Launch System, Atlas, and Titan/Centaur programs in San Diego. He has been serving on the Space Transportation Infrastructure Study in Huntsville for the past year and a half.

Changes Made to Tuition Program

Human Resources has announced changes to the division's Tuition Reimbursement Program. These changes, which became effective January 1, were necessary due to business conditions and the need to reduce costs.

New employees to the program may be reimbursed for 100% of tuition costs for no more than two courses per quarter/semester in an amount not to exceed $2,000 per year.

To ensure reimbursement, Tuition Refund Request forms (SSD4021) must be submitted to the Organizational Effectiveness department prior to the start of each course. For more information, call Teresa Cabading at 44590.

NMA Scholarship Applications Available

Applications for the GDSS 1992 NMA Scholarship Awards are now available. This program awards scholarships to assist high school seniors with their higher education.

Applicants must be a legal dependent of a Space Systems employee. Winners will be selected by the NMA Scholarship Awards Committee. Applications are due no later than March 25, and the winners will be chosen based on the application, transcript data, and a personal interview with the scholarship committee.

For application information, please contact Lori Jo Zehner at 44802.

CRA Players Present Spring Show

The CRA Players, General Dynamics' own theater group, recently announced that tickets are now on sale for their upcoming spring show, "The Dining Room," by A.R. Gurney.

The show opens March 20 and stars the following Space Systems employees: Jim Bushway, Bret Kudlicki, Monica Van Der Werf, and Deanna Wheaton. The show is directed by CSC employee Susan Malone.

Tickets are $5 advanced sales or $6 at the door, and can be purchased at the CRA Emporium or from any CRA Players member. Group rates are also available. The show runs March 20, 21, 27-29, and April 3-5 in the CRA Clubhouse. For additional ticket information, contact Jim Bushway at 75055 or Lyndon Shaftoe at 44564.

TQM

Continued from previous page

received information on over 70 initiatives which legitimately support the Quality Principles.

There is not room to list all of the examples, but the following at least shows a sample:

- **Engineering:** Torque Process Study, Product Support Teams, Integrated Product Development
- **Contracts & Estimating:** Proposal Process Guidebook, Task Budget Authorization Process, Tool Requirements ID Process
- **Production:** Interplant Transfer, Orbital Arc Welding Team, Welding Process Improvements, Solenoid Improvement Team, Customer Satisfaction Initiative, Self-directed Work Teams, Fastener Installation
- **Quality Assurance:** Statistical Process Control Certified Processes, Reduction of Inspection Operations, Vehicle Incremental Certificate Of Conformance Process, QAR Initiation Transfer, Improved Craftsman Program, On-Line Call Book
- **Purchasing/Material:** Zero Shortage Kits, Supplier Certification
- **Multi-Discipline:** Manufacturing Resource Planning II, Foreign Object Damage/Foreign Object Elimination, Just-In-Time Processing

In future issues of the *Orbiteer*, I will discuss in detail each of the principles shown in the wheel. In the meantime, how many of these initiatives do you recognize? Are you able to link them to the principles that apply? Just a casual review should convince you that TQM is alive and well at Space Systems Division.

ORBITEER

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

March 20, 1992

Atlas/Centaur Does It Again!
Galaxy V Launched into Space

In filled-to-capacity rooms throughout the division, GDSS employees eagerly watched as a Galaxy V communications satellite was lifted into space at 7:00 p.m. EST on March 13, 1992, aboard Atlas/Centaur 72. This was the second launch of an Atlas this year.

All seemed to hold their breath as the Atlas rose from the launch pad. A sense of relief was evident as the launch announcer, Jim Codd, reported a successful liftoff, culminating a tension-filled afternoon as the employees waited through weather problems and data checks.

A commercial Atlas I, AC-72 was the first of four GDSS commercial launches scheduled in 1992. General Dynamics Commercial Launch Services will be providing launch services for these other launches, which include Intelsat, the first of ten UHF communications satellites for the U.S. Navy, and another Galaxy satellite.

"This is our second successful launch this year, and it signals what is to be a busy year for us at Cape Canaveral as we build to our planned launch rate of eight per year for our commercial and military customers," Michael Wynne, division vice president and general manager, said.

The encapsulation of Galaxy V

"The challenges for 1992 are being met as a team effort by all at Cape Canaveral, with performance and dedication to quality products being evident with three consecutive successful launches."
– Ron Clyburn, SLC-36B Quality Assurance

Built by the Space and Communications Group of the Hughes Aircraft Company, the Galaxy V satellite will provide exclusive distribution service for the leading names in cable television, including Home Box Office, Cable News Network, TNT, ESPN, and the Disney Channel. This spacecraft is the company's next-generation replacement for Westar V.

CLS has 23 commercial launch commitments over the next several years. Atlas II for the Air Force adds another nine military launches to GD's manifest.

"Our commercial backlog puts us in a strong position in an extremely competitive marketplace," Charlie Lloyd, vice president and managing director for CLS, said. "With each success, the proven reliability of our Atlas family of launch vehicles reinforces customer confidence as we pursue additional business."

MRP II Kicks Off Pilot Program

On March 2, Michael Wynne, division vice president and general manager, cut the ribbon signifying the start of the Manufacturing Resource Planning II Conference Room Pilot Program.


General Manager Michael Wynne cuts the ribbon to officially open the MRP II Conference Room Pilot Program, while Pete Morris, manager–MRP II, looks on.

The main objective of the Conference Room Pilot program is to educate and train MRP II users so they can learn about the MRP II software and how to manage their part of the business process with it. This piloting process will help establish the standard policies and procedures needed to operate with the MRP II software, MAC-PAC/D.

"The purpose of the Conference Room Pilot is to prove that MRP II works before turning it over to the live production system," Pete Morris, manager–MRP II, said. "We want to ensure that the technical side (the software) as well as the users' side (the people) work. Problems that are found during the Conference Room Pilot will be corrected, which will avoid impacting our business during live operations."

The Conference Room Pilot is located on the fourth floor of Kearny Mesa Building 24, at column 452R. Computers assigned to different functional areas are

See **MRP II** *on back page*

Atlas Commemorative Jackets Distributed

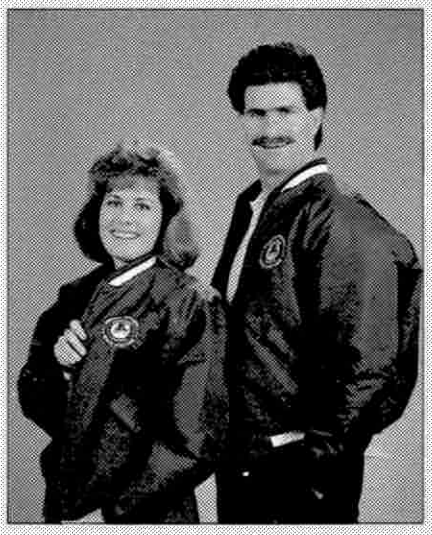
In appreciation of their hard work and dedication in the preparation and support of the 500th Atlas launch, every division employee was offered a commemorative jacket in early March.

Michael Wynne, division vice president and general manager, felt that the jackets would be a nice, practical gift for the employees. Distribution to San Diego employees began March 2 in the Kearny Mesa Building 24 lobby. Supervisors and group coordinators were responsible for picking up the jackets for the employees in their respective groups.

Thanks to the following employees who assisted in the distribution of these jackets: Glorene Anderson, Dennis Bartlett, Gayle Croft, Jim Elliot, Fred Farmer, Carolyn Ficken, Marian Fite, Gayle Frank, Barbara Freeman, Gail Golden, Rich Golden, Kay Hafer, Neil Krey, Donna Lewis, Charisse Matsumori, Dave Mazaika, Yolanda Mendoza, Gayleen Nakamura, Joann Neill, Tim O'Leary, Suzanne Person, Diane Rodriguez, Doris Rosales, Patty Shelanski, Pearl Simmons, Mike Smith, Beth Stawiarski, Pat Stewart, Deanna Wheaton, Carolyn Wilson, and Lori Jo Zehner.

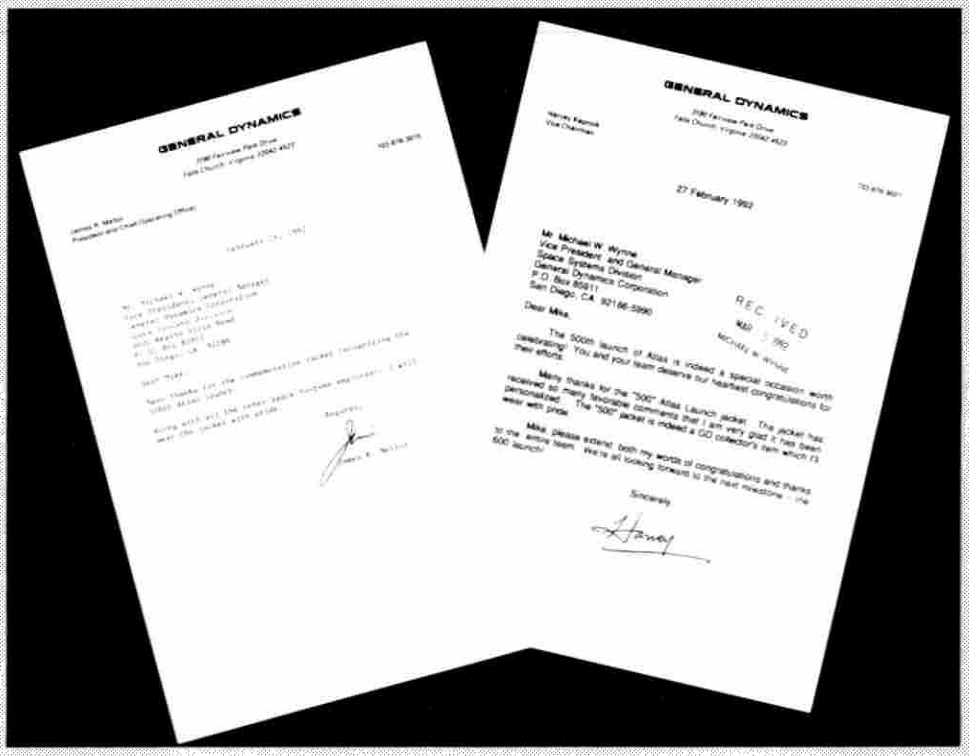
Don Sandberg and Geirg Lethbridge check their group's order to ensure that they received the correct number of jackets and the right sizes.

(Photo at left) Barbara Freeman, Diane Rodriguez, and Glorene Anderson (sitting at table, left) verify employee cards for the group supervisors/coordinators, as Donna Lewis (right, foreground) hands out the jackets.



Patty Shelanski and Jim Elliot show off their 500th Atlas Commemorative jackets.

Rich Golden and Donna Lewis were among several volunteers who helped fill group jacket orders.



Jim Mellor, GD's president and chief operating officer, and Harvey Kapnick, vice chairman, show appreciation for their gift jackets.

3/20/92

Volunteering Opportunities

Volunteer hours donated by General Dynamics employees to community relations activities is an ongoing process that is greatly appreciated. Employees may be interested in volunteering their time and support to the following upcoming activity in our area:

March of Dimes' WalkAmerica -

This organization's annual walk is scheduled for April 25. Last year, General Dynamics raised more than $45,000 for this cause. The company has been challenged to surpass this amount.

If you have questions concerning the walk, please contact Sheryl Squire at 41174 or your department's team leader. The following individuals represent Space Systems Division as team leaders:

ALS	Pattie Greener	75503
Business Dev.	Yolanda Mendoza	79036
Estimating	Dan Ramirez	43733
Energy Programs	Penney Gurrola	77351
Finance	Art Wrightson	41675
Human Resources	Elaine Briggs	43586
Material	Bea Ruvalcaba	43291
MRP II/IRM	Glorene Anderson	43888
NMA	Rich Golden	41073
NMA	Robbin Foss	77010
Procurement	Jackie Sheinbein	43140
Production	Phil Whisnant	44792
Quality Assurance	Elaine Heffernan	44402
Engineering	CeCe Simon	78038
T/C Programs	Lisa Baumgarth	77514
Sys. Integration	Ron Eckberg	38670

Team leader luncheons will be held March 24 at Kearny Mesa, and March 25 at Lindbergh Field. At the luncheons, leaders will receive supplies and learn more about Walk America.

The March of Dimes funds programs to improve the health of babies by preventing birth defects and infant mortality. Walk today so that they may walk tomorrow. Bring your families, friends, and neighbors to join the General Dynamics team on April 25.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week of March 16, 1992)

Cape Canaveral	558
Harlingen	339
San Diego	3,146
Vandenberg	252
Hammond	73
Other Offsite Locations	33
TOTAL	**4,401**

Small Business Program Rated Outstanding

The division's Small Disadvantaged Business Subcontracting Program has received an "outstanding" rating from the Department of Defense for performance in 1991.

This rating was received after an extensive program review conducted in early February by the Defense Contract Management Area Operations (DCMAO)–San Diego. The DCMAO reviewed specific program criteria, including a sampling of purchase orders awarded within the last six months, subcontracting plans and achievements toward established goals, frequency and amount of training, level of top management involvement, written procedures, and outreach efforts.

Space Systems excelled in all of the audit criteria, with particular recognition given to the outreach and internal training programs.

"I was very pleased with the results of the review," W.R. Hobdy, Deputy for Small Business, DCMAO–San Diego, stated in his congratulatory letter to Michael Wynne, division vice president and general manager. "Our findings indicate that you have a team that works your Small Business Program on a daily basis."

This is the second year in a row that Space Systems Division has earned an "Outstanding" rating from the DoD. The Small Business Program team reports to Roy Bennett, division vice president–Material.

"The achievement of yet another 'Outstanding' rating demonstrates that we as a division continue our commitment to our small disadvantaged business community," Tim O'Leary, GDSS's Small Business Liaison officer, said. "We could not have been rated so favorably if we did not have the cooperation and active participation from all members of the Space Team."

DoD's Deputy for Small Business, Bob Hobdy, presents Roy Bennett, division vice president–Material, with a framed letter noting the attainment of an "Outstanding" rating for GDSS's Small Business Program.

GD To Host Service Academies Night

The Convair, Electronics, and Space Systems Divisions will be hosting U.S. Service Academies Night from 7 - 9 p.m., March 25, in the Kearny Mesa Dining Center.

Representatives from the five federal academies will be present to discuss educational and career opportunities with parents, students, and school counselors. These academies include the U.S. Military (Army), U.S. Naval, U.S. Air Force, U.S. Coast Guard, and U.S. Merchant Marine Academies.

In addition to the academy presentations, Congressional Liaison personnel will be present to answer inquiries on the appointment process.

This event is open to the families of all General Dynamics employees.

Inside Space ...

Bill Strobl, division vice president and program director–Advanced Launch Systems, has a new colt named ***Best in Space.*** The horse, whose grandfather is the famous racehorse *Secretariat*, is a dark bay (brown, with no white marks). Bill hopes this is the one to beat in the 1994 Kentucky Derby... **"The Dining Room,"** a play by A.R. Gurney, opens tonight in the CRA Auditorium. The CRA Players present this production which runs March 20, 21, 27-28, and April 3-5. Tickets are $5 in advance or $6 at the door... **GDPARC is issuing Renewable Parking Passes** to those employees who use the car pool parking spaces. Current passes expire March 27. To get a new pass, please contact GDPARC at 39529... **Space System's Blood Drive** will be held March 23-27. Look for flyers for specific times and locations.

Employees Awarded for Outstanding Security Performance

Jim Wells and Dick Klain of Plant Operations were recently presented with Outstanding Security Performance Awards for their exceptional service in following security regulations for security document destruction.

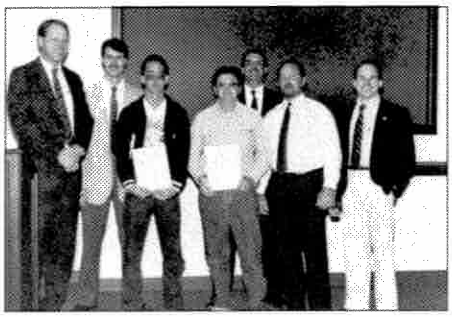
Both Jim and Dick were recognized for performing tasks outside of their regular job assignments. Archie Yates and Todd Dolezal of Industrial Security presented the awards.

As part of their special tasks, Jim and Dick are required to process and destroy accountable and unaccountable GDSS documents via a government-approved SeM Disintegrator. They must process and sign destruction records for each accountable document destroyed. This meticulous job requires a high level of integrity and awareness.

"Jim and Dick exemplify the spirit of security excellence that the Outstanding Security Performance Award was designed to highlight," Ron Davis, director of Security, said.

Both employees have performed at a 100% error-free rate while destroying over 3,000 documents in the last year. Their outstanding performance assisted the division in achieving another successful Defense Investigative Service (DIS) inspection. Security Administrator Todd Dolezal trained Jim and Dick.

Only 14 Security Awareness Awards have been presented throughout the division to date.



The Industrial Security department presents Outstanding Security Performance Awards to Jim Wells and Dick Klain. Pictured from left to right are Archie Yates, manager–Industrial Security: Todd Dolezal, Security administrator; Jim Wells; Dick Klain; Dennis Garegnani, Plant Operations chief: Charlie Farren, Plant Operations; and Dave Walters, Security administrator.

Retirees

Thanks and good luck to these GDSS employees who recently retired:

David L. Binney
Engineering Specialist ..... 34 years

Howard M. Bonesteel
Director–NASA Advanced Space Transportation ..... 33 years

Jack C. Easton
Research Test Lab ..... 40 years

James W. Eberhardt
Program Manager ..... 10 years

Joe P. Gamache, Jr.
Material Operations Specialist ..... 35 years

William Garcia
Project Engineer, Sr. ..... 47 years

Frank H. Harding
Production Specialist ..... 26 years

Robert F. Hild
Engineering Specialist ..... 29 years

Robert W. Inscore
Engineering Specialist ..... 38 years

Eva M. Jones
Federal Item ID Analyst ..... 33 years

Vernon O. Kettler
Engineering Manager ..... 36 years

Kenneth F. Koehl
Engineer, Sr. ..... 35 years

Barbara R. Lingenfelder
Accountant ..... 31 years

Digby Ljungquist
Material Project Administrator ..... 40 years

James A. Matthews
Launch Service Technician, Sr.-OSB .. 35 years

Arnold Meloche
QA Representative, Sr. ..... 3 years

Stanley Menas
Estimating Specialist ..... 24 years

Oran H. Moore, Jr.
Group Engineer ..... 28 years

Thomas J. Phillipp
Manager Quality Assurance ..... 32 years

John D. Vester
Supervisor Quality Assurance-Base .... 35 years

Garrett N. Vick, Sr.
Engineering Specialist ..... 35 years

Jack D. Weber
Engineering Specialist, Sr. ..... 35 years

Herman S. Winter
Avionics Development Lab Technician ..... 36 years

Space Systems Inventors

These employees have been credited with the following inventions. Patents have either been applied for or awarded to them by the U.S. Patent Office.

John Porter of Advanced Space Systems Pre-design, **Neal White** of the Elastomers Lab, and **Jeffrey Holdridge** of Advanced Structures, for their invention entitled "Multi-layer Stitched Blanket Insulation." This invention will improve the deployable/retractable aerobrakes on launch vehicles.

MRP II

continued from front page

set up in the room. Representatives from around the division have been asked to test the system as it applies to their areas.

"It is important to exercise the total system as much as possible," Mike Iverson, director of MRP II and IRM, said. "This is accomplished by testing or simulating various business events against dummy data. In addition, unexpected events will be imposed to test how robust our procedures really are."

Dummy data is the type of information used in the program. This data reflects reality, but is created and exercised in a controlled test environment to prevent the contamination of the real production system.

The MRP II department welcomes all Space Systems employees to visit the Conference Room Pilot.

The employees pictured above were part of the team responsible for putting together the MRP II Conference Room Pilot Program. They represent functional areas throughout General Dynamics Space Systems Division and the Computer Sciences Corporation.

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION
April 3, 1992

CLS Secures Three New Launch Wins

After nearly a year of going without a win for future launch business, General Dynamics Commercial Launch Services secured commitments for three new launches the week of March 9. These wins capped a "Miracle March," which also included the successful launch of Atlas/Centaur 72 on March 13.

Two of the launch wins were provided by the International Maritime Satellite Organization, or Inmarsat. This council selected the Atlas II to provide launch services for two Inmarsat-3 satellites.

Inmarsat, an international cooperative of 64 nations, provides maritime and mobile satellite communications. They have four Inmarsat-3 satellites and have selected CLS for launches of two of them. Launch selections for the other two will be made in July, so an additional Atlas order is possible.

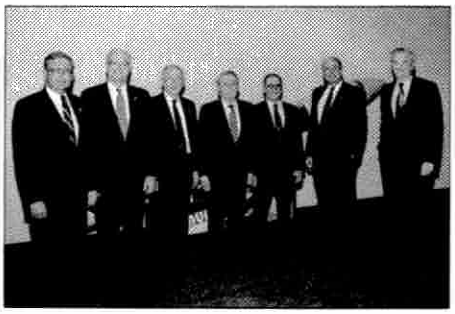
The International Telecommunications Satellite Organization (Intelsat) Board of Governors authorized the go-ahead for an additional Atlas IIAS. Intelsat is an international commercial cooperative of 121 member nations that owns and operates a 17-satellite global system.

Atlas has provided 24 launches for Intelsat since 1971. This latest decision increases their current orders to four – three Atlas IIAS for 1994 - 95 launches of Intelsat VII, and one Atlas IIA for launch of Intelsat-K in late May this year.

"Our long and successful association with Intelsat has been based on open communication and good service," Bob White, CLS Marketing director, said. "We look forward to establishing a similar long-term relationship with Inmarsat."

Products on Display. *In order to show off several of the Space Systems programs, a display case has been installed in the Kearny Mesa Building 24 lobby. This case holds one-fiftieth scale models of the Atlas family and Titan/Centaur.*

Fred Farmer of Customer Relations was tasked with coordinating the design and production of the display case. Doug Powell, Graphic Communications designer, assisted with the conceptual design, and Ed Passi, Graphic Communications designer, assisted with art production for the back of the case. Dimensional Technologies, Inc. of Escondido, CA, built the case. The Space Systems Division employees report to Carey Riley, division vice president–Business Development. Shown above (left to right) are Powell, Farmer, Passi, and Chris Gehrisch of Dimensional Technologies, standing with their finished product.



GD and Martin Marietta Corporation executives visited GDSS March 19 to review the Titan/Centaur program. Pictured above, in front of a T/C model, are (left to right) Fred Hudoff, president–MMC Space Launch Systems; Pete Teets, president–MMC Astronautics Group; Tom Young, MMC president & chief operating officer; Jim Mellor, GD president & chief operating officer; Bill Anders, GD chairman & chief executive officer; Norm Augustine, MMC chairman & chief executive officer; and Mike Wynne, vice president & general manager of Space Systems Division.

Please see ***Titan/Centaur*** *on back page*

Atlas Manufacturing Consolidated at Kearny Mesa

If you saw people hurrying around Kearny Mesa Building 5 March 6–15, carrying paint buckets, scaffolding, and lights, you were witnessing the rapid facility conversion of that building for Atlas booster final assembly operations.

This project was initiated by the division on March 4. On March 6, a division notice (No. 92-06) was sent out to all employees announcing the consolidation of Atlas manufacturing from Vandenberg Air Force Base to the Kearny Mesa Facility.

In Building 5, 26,000 square feet of space was modified, including painting 63,000 square feet of walls, ceiling, and duct work, repairing and cleaning all floors, installing and relocating 27 overhead lights and electrical and air systems, and removing and relocating partitions and fences. A 33-ton, 55-foot tall A-frame was also removed, and 3,200 square feet of scaffolding was erected and dismantled during the conversion process.

"This project showed what good teamwork, leadership, and communication can do," Dennis Garegnani of Facility Services said. "We were able to rapidly convert this facility safely and on time thanks to a lot of hard work by many individuals."

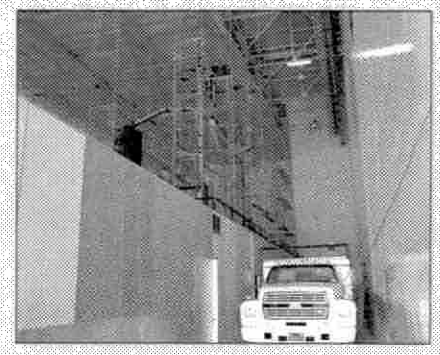
Energy Programs, Production, Purchasing, Facility Services, and Transportation were all involved in the transformation. Duffin Painting, Snow Construction, and Up-N-Down Scaffold were vendors who also assisted with the project.

The employees pictured above were part of the Facility Services team responsible for turning Building 5 into an Atlas booster final assembly area. They are (left to right, standing in front): Mike Garrett, Ram Ramirez, Dennis Garegnani, Don Nichols, Gerry Scott, Bob Wilson, Craig Brasher, Mark Hurd, Charlie Farren; (up on ladder)Terry Agbunag, Bob Sabo, Bert Hudson, Joe Potkonjak, Ed Tabbert, Tom Edwards, and Dick Klain.

"By consolidating Atlas manufacturing in San Diego, the Space Systems Division Vandenberg Team will focus attention on Atlas E and the upcoming West Coast pad activation," Michael Wynne, division vice president and general manager, said in the March 6 division notice.

With this announcement, all Atlas booster work was officially transferred to the San Diego facility. Atlas/Centaur 106 will be the first launch vehicle assembled at Kearny Mesa under this new plan.

Bob Wilson and Don Nichols of Facility Services worked hard to clean up the air vents in Building 5 during the conversion.



Trucks, scaffolding, and other equipment were brought into Building 5 for this project. A hole had to be made in a wall to get everything in.

Andres Honored as GDSS' TWIN Nominee

Marianne Andres, Engineering chief, was recently recognized as Space Systems Division's nominee in the San Diego Tribute to Women in Industry (TWIN) awards.

TWIN, which is supported by the YWCA, recognizes professional women in San Diego who have made a significant contribution to industry. The nominating criteria requires that the nominee must have made an outstanding achievement within her organization, excluding the normal scope of her job duties. Community activities and professional organization involvement are also taken into consideration.

GDSS' TWIN nominee and runners-up were recently announced. Pictured above (left to right) are: Mike Wynne, division vice president and general manager; Bob DiNal, division vice president–Research and Engineering; Marianne Andres, division TWIN nominee; Kris Buitenhek, TWIN runner-up; Roberta Baade, division vice president–Human Resources; and Tom Baranouskas, division vice president and controller, representing June Scheuble, who was not available for the presentation.

Marianne, who was nominated by Bob DiNal, division vice president–Research and Engineering, met all of the criteria required for TWIN nominees. She presently serves on the Electronics Industry Assoication's Data and Configuration Committee. She also is a member of the American Defense Preparedness Association's Technical Documentation Defense Program Committee. In her spare time, Marianne volunteers at Mesa Vista Hospital for Drug and Alcohol Recovery.

Kris Buitenhek, chief–IRM, and June Scheuble, manager–Finance, were division runners-up for the award.

A luncheon was held May 29 at the San Diego Convention Center to honor all of the companies and their recipients.

4/3/92

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending March 27, 1992)

Cape Canaveral	570
Harlingen	347
San Diego	3,103
Vandenberg	259
Hammond	50
Other Offsite Locations	36
TOTAL	**4,365**

Seminar Offered by Maternity Fraternity

The Maternity Fraternity, a club recently created through the Human Resources department, is offering its next free seminar entitled "Fitness for Two."

Through the course, expectant mothers will understand the importance of adapting an exercise routine to the individual woman, learn the types of exercise and activities that are safe and unsafe during pregnancy, and find the physical and emotional benefits of regular exercise during pregnancy.

The course will be held from 11 a.m. to noon, April 8, in the Building 24 Conference Center. The class will be taught by Nadine Kassity, Neonatal Outreach educator at Children's Hospital and Health Center. To RSVP for this course, please contact Becky McDonald at 44135 or Elaine Briggs at 43586.

The Maternity Fraternity is currently open as a pilot program to San Diego-based female employees only. The program's goal is to reduce complications for mothers during delivery and for their newborns during the first few weeks of life. The Human Resources department hopes to expand the program to GDSS offsites and to male employees with expecting spouses next year.

CRA Travel Organizes Special Trip

As part of its services to General Dynamics employees, CRA Travel organizes special trips at discount rates. Below is information on one of several activities being planned. Call CRA Travel at 38248 to make reservations:

Grand Canyon Trip: May 23–25

For $327 per person, you receive flight reservations, motorcoach transportation, accommodations, and other benefits for this group event. Complete payment is due by April 5.

1st Quarter 1992
Division Goals: Where We Stand

Information provided by Division Planning

Each year, Space Systems Division's management establishes a set of definitive milestones against which performance is measured both internally by the general manager and externally by the corporate officers. The division's goals represent both financial and programmatic milestones in which each employee can have a significant impact. The goals for 1992 are aggressive, but the successes demonstrated by the division so far this year underscore our ability to meet the challenges ahead.

A driving force behind the development of this year's performance goals is the new Sales and Operations Planning Process. S&OP, as it is more commonly referred to, has introduced an innovative process of integrating input from all of the Space Systems Division's organizations into a concise internal plan that can be tracked on a monthly basis.

This process allows change to be effectively managed through regularly comparing "demand" requirements of our customers against our ability to meet those requirements from a "supply" perspective. This is important in a business where change is almost an everyday event. The end results are more realistic business plans and performance goals through functional and program office participation, as well as improved communication throughout the division.

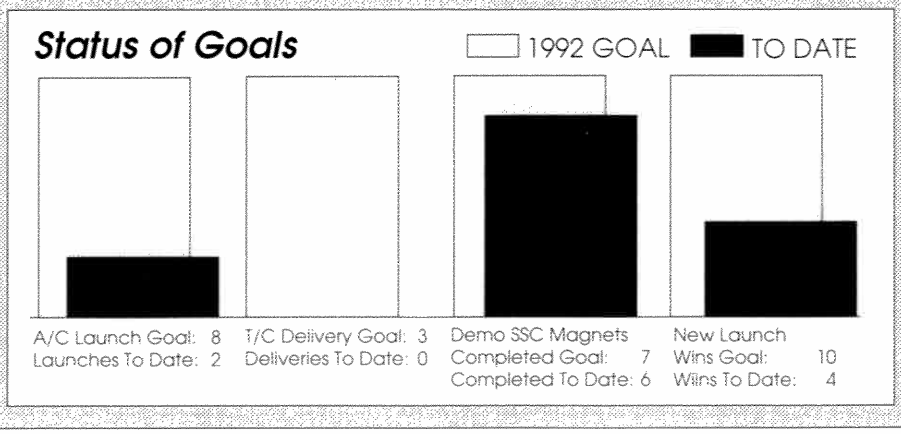
How are we, as a division, doing to date on this year's performance goals? Space Systems Division has made excellent progress in achieving many of its milestones. With the successful launches of AC-101 (the first MLV II) and AC-72 (Hughes/Galaxy V), GDSS is well on its way to meeting the Atlas launch target.

In March, Commercial Launch Services was successful in acquiring four commercial launch commitments: Intelsat, Inmarsat (2 launches), and Customer X, which cannot be revealed publicly at this time.

The Hammond Facility transition to SSC Dipole Magnet production is moving along as scheduled, with production start-up planned for October. In addition, six industrial demonstration SSC Dipole Magnets have been completed, tested, and approved by Fermi National Accelerator Laboratories, with the seventh magnet scheduled for completion soon.

Throughout the month of February, the division met or exceeded many of the 1992 financial targets. The Safety department reported two excellent months of low total recordable injury and illness incidence rates, with a year-to-date rate of 2.8. Also, a number of initiatives have been introduced to maintain an effective system of internal management of control, including the S&OP process.

As successful as the division's performance reflects year-to-date, there are still nine months remaining in 1992. Achievement of *all* of GDSS's goals is attainable, and is one more step to becoming the Best in All of Space.



Tyler Named San Diego Multiple Sclerosis Society's Father of the Year

Frank Tyler, Quality Assurance representative, Sr., has been honored as the 1992 Father of the Year for the San Diego Area Chapter of the Multiple Sclerosis Society. Because of this local award, he is nominated for the National MS Society's Father of the Year award.

Frank discovered he had MS in 1982 while enlisted in the U.S. Navy. During training to become a Limited Duty Flight officer, he experienced strange burning and tingling sensations in his left leg. Medical tests conducted by naval doctors concluded that Frank had the disease. While coming to terms with MS and trying to educate himself and his family about the disease, Frank was discharged by the Navy for medical reasons.

Following his discharge, Frank experienced discrimination during his job hunting process. He was told he was unemployable due to his disease. But Frank proved them wrong, and was hired by GDSS in 1989.

Frank is very active with his three children, Sean, Danielle, and Amanda, and enjoys being involved in their activities. Along with their "natural" children, he and his wife, Deborah, have had over 47 foster children live in their home over the last three years.

Frank Tyler

Frank joined the San Diego chapter of the MS Society in 1982, the same year he was diagnosed. He is currently active in the role of peer counselor for the society. Because of his positive outlook on life and his involvement in the society, Frank was chosen Father of the Year.

"When I was diagnosed ten years ago, I told my physician that I did not have time for MS, and the disease was something that was going to have to make an adjustment to my life, instead of me adjusting to life with MS," Frank said.

Multiple sclerosis is a disease that affects the motor functions of the muscles. It can cause partial or complete paralysis and is incurable.

Income Tax Deadline Approaches

Personal tax returns are due April 15, so here are a few "helpful hints" to ease the stress caused by the tax season.

How can I get an extension on the time to file?

Although tax returns are due by April 15, you can request an automatic four-month extension of time. By filing Internal Revenue Service Form 4868 by April 15, you may extend the time allowed to file the tax form to August 17. ***Any taxes owed are still due on April 15.*** If you anticipate owing, you must send your payment in with the extension forms–Form 4868 for Federal taxes, Form 3519 for State taxes.

Failure to pay the amount due with your extension request renders the extension invalid, and you will be subject to failure-to-file penalties. Failure-to-file penalties are assessed at a rate of 5% per month that a return is late. The maximum penalty is 25% of the tax due.

How can I guarantee that the IRS has received my tax return?

It's a good idea to send in your return by either registered or certified mail, especially if you owe additional dollars on your tax returns. If your tax returns were to get lost, you could prove that they were filed on time.

You should also be sure that you mail your tax returns with the correct postage. The IRS and the Franchise Tax Board do not accept tax returns with postage due. These returns will be sent back to you and may be subject to late filing penalties.

How long should I keep my tax records?

The statute of limitations for an IRS audit is three years from the filing date of your tax return. After April 15, 1992, you can no longer be audited on your 1988 tax returns or any prior tax returns unless the IRS can prove fraud. Always keep a copy of any tax returns you have filed.

Division Hosts Titan/ Centaur CEO Review

On March 19, Bill Anders and Norm Augustine, the chairmen and chief executive officers of General Dynamics and Martin Marietta Corporation respectively, visited GDSS to review the program status and cost control of the Titan/Centaur program.

Dave Hackley, division vice president and program director–Titan/Centaur, Ed Squires, division vice president–Production, and Marty Winkler, deputy general manager, made presentations relating to the T/C organization and cost status, production, and technical issues, respectively.

"The meeting was well prepared for and supported by everyone involved," Dave Hackley said. "We were able to establish the direction and credibility of the new T/C cost control methods, and most importantly, our total dedication to the success of our first T/C launch."

Throughout the meeting, Norm Augustine stressed that 100% mission success is the absolute top priority for the T/C program.

Jim Mellor, GD president and chief operating officer, and Tom Young, MMC president and chief operating officer, also attended this meeting.

DAYLIGHT SAVINGS TIME BEGINS APRIL 5.

DON'T FORGET TO TURN YOUR CLOCK AHEAD ONE HOUR!

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

April 17, 1992

Atlas Family Performance Upgraded Eight Percent

In late March, General Dynamics Commercial Launch Services announced an 8 percent performance growth for the Atlas family of launch vehicles. This upgrade is the result of a combination of hardware and software improvements.

"The performance growth increase in payload lift capability is in response to customer requirements for launches of larger, more capable spacecraft planned for the 1990s," Charlie Lloyd, CLS vice president and managing director, said.

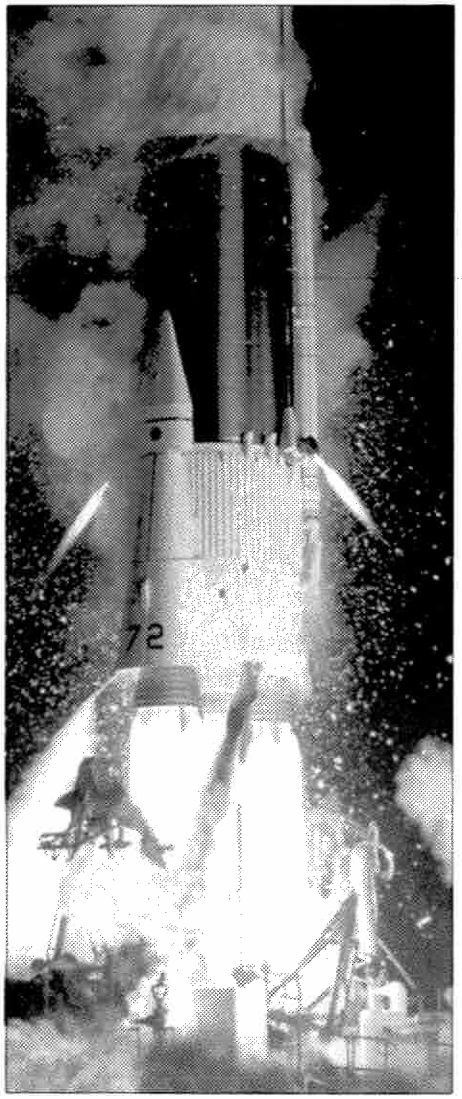
Known as the Block 1 enhancements package, the upgrades include an improved Centaur main engine with a two-second increase in specific impulse and 1,500 pounds of increased thrust.

The package also includes "custom" missions designed to increase satellite operational lifetime.

"The company will continue to offer the existing configuration of Atlas for missions which do not require the increased performance," Dennis Dunbar, CLS vice president – Programs and Technical Operations, said. "The standard mission is one constrained to a specific standard geosynchronous transfer orbit. The custom mission is one optimized for achieving the highest lifetime or spacecraft dry mass capability using Centaur's unique mission targeting capabilities."

Announcements of the performance upgrades were made at the AIAA Communication Satellite Conference in Washington, D.C., and the Space Commerce Conference in Montreaux, Switzerland.

The upgrades include an improved Centaur main engine and 1,500 pounds of increased thrust.



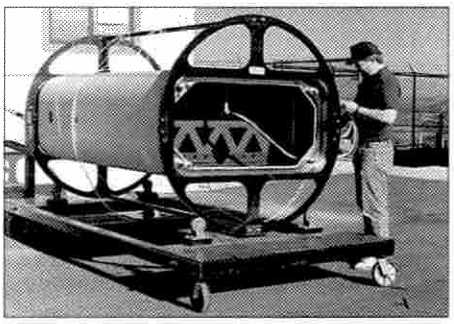
(Photo, right) Atlas/Centaur 72 blasts into space carrying the Hughes Galaxy V satellite.

Testing of NASP Subscale Fuel Tank Successful

Another key milestone for the National Aerospace Plane (NASP) was achieved on December 11, 1991, when GDSS successfully completed cryogenic testing of a composite material tank.

This final "Task D" test culminated several years of developmental effort at General Dynamics.

During testing, conducted at the GD Sycamore Canyon Test Facility, the conformal graphite epoxy composite fuel tank was pressurized with hydrogen three times to the maximum design limit pressure. Throughout the test cycles, the tank did not leak.



Dan Ruth of Engineering Test Support routes instrumentation lines on the Task D NASP tank prior to its installation in the test chamber.

Graphite epoxy composite materials were used in the construction of the tank to minimize weight and thermal distortion effects. This material is more efficient than conventional tank materials and can be tailored to the design loads.

The approximately 3 x 5 x 8 foot tank was fabricated with innovative manufacturing techniques and tooling developed jointly by General Dynamics and AeroTrans Corporation of Springville, UT, where the tank was fabricated.

*See **NASP** on back page*

Marketing Communications Sends Division's Advertising Messages Around The World

Thanks to a skilled group within Business Communications, the division's marketing message is heard loud and clear around the world. The Marketing Communications group develops advertising campaigns designed to inform and persuade both national and international customers to buy GDSS products and services.

Along with Neil Krey, Marketing Communications specialist, and Yolanda Mendoza, Marketing Communications analyst, Sr., Mike Smith, who leads the group, directs advertising campaigns in support of all major division business areas, including Commercial Launch Services.

Working from a detailed plan, product ads are developed and placed in print media focused on the space industry. Other ads advocate congressional funding of national programs that are of interest to the division, such as the Space Exploration Initiative.

"Advocacy ads are different from product ads," Mike Smith said. "They have to convince the reader through rational argument that a certain action may not only be a good idea, but good for the country as well."

Pointing to a set of ads used in a recent Superconducting Super Collider magnet campaign, he added, "The second year we ran these ads, they drew so much attention in Washington, D.C., the Associated Press ran a story on them."

Mike Smith, chief–Marketing Communications, shows the four ads that make up the SSC advertising campaign.

The GDSS advertising team is supported by Knoth and Meads, a San Diego-based advertising agency. Providing creative and media placement support, the agency ensures that ads are published in over 20 select trade magazines and newspapers around the world, such as *Aviation Week*, *Asian Wall Street Journal*, and *Space News*.

The GDSS advertising team, Mike Smith, Neil Krey, and Yolanda Mendoza, have meetings each week to discuss new campaigns for getting the division's advertising messages to customers worldwide.

"Advertising is a team effort," Mike said. "Each ad idea must survive reviews with marketing managers, program directors, customer representatives, ad agency experts, and a corporate review board. Not every idea survives the gauntlet."

In the last three years, Marketing Communications has developed and directed 17 ad campaigns, each consisting of one to five ads. Campaigns have supported Centaur and Titan/Centaur business opportunities, Atlas launches, division image, and space exploration activities pursued through various NASA centers.

Marketing Communications is a subgroup of Business Communications, under the leadership of Director Alda Jorgenson. This organization is one of several groups in the Business Development department, reporting to Division Vice President Carey Riley. Marketing Communications is also responsible for division product brochure development and community relations.

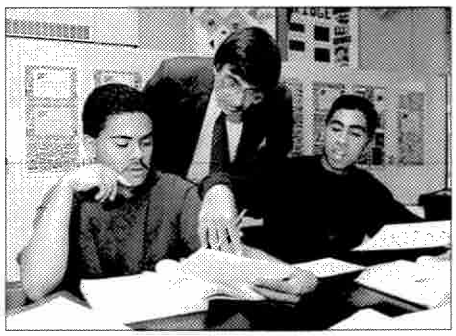
DiNal Leads School as Substitute Principal

By Scott Stutzman, NMA/Hilltop High School Partnership manager

On March 24, Bob DiNal, division vice president – Research and Engineering, performed duties as Hilltop High School's "Principal for Half-a-Day." This event was held in cooperation with the County Department of Education's program to increase awareness of business involvement in education.

During his day at Space Systems Division's partnership school, Bob DiNal attended meetings with Hilltop High School's administrative and teaching staff and student government representatives. He also toured the campus classrooms and observed classes in progress.

When asked why he accepted the invitation to participate in this activity, Bob responded, "I directly benefited from our public education system and believe that, given the present educational environment, it is not sufficient for people who have benefited to just pay taxes and let teachers do the rest."



Bob DiNal (center), Principal for Half-a-Day, discusses DNA and genetics with a couple of Hilltop High School students.

The following individuals from the division also went to Hilltop High School to make classroom presentations: Ken Dawson, Dana Frizzell, David Silva, Constance Terwilliger, Deanna Wheaton, and Nancy Rose. All of these presentations were well received and appeared to stimulate the interests of both the students and teachers.

Other activities included a sophomore speech contest and a poster art contest, which were sponsored and judged by members of GDSS' National Management Association. Both contests had the theme "Science and Technology in the Year 2000 – What Will It Be Like?"

4/17/92

Harlingen Implements Theodolite Training

By Noelia Gutierrez

The Atlas program of today has advanced to meet a more technological and competitive market. Our launch vehicles are expected to lift more for less.

We accomplish this task by using advanced materials like composites and lithium alloys. Engineering tolerances are more stringent on the product and the tools that build the product. Vendors and manufacturing personnel have to meet the challenge that the modern factory environment demands.

To do this, the Harlingen Facility has instituted theodolite training, a course on an advanced quality inspection process.

In this 80-hour course, taught by James S. Mize, of Envestors Brokerage Agency in El Cajon, CA, employees learn how to use an optical system connected with a computer. This system gives an advanced and more accurate measurement of the dimensions of parts used in our vehicles.

The implementation of this course will hopefully ensure that the Harlingen Facility will deliver a better product to all of our Atlas customers.

Members of the Harlingen theodolite training course take a break for a photo. Standing in background (left to right) are James Mize, course instructor, and Michael Miceli, who oversees the training for the group. Seated (left to right) are Joe Ybarra, Frank Slavik, Gary Cecil, Oscar Chapa, Craig Weikel, Manuel Solorzano, John Bryan, Rogelio Rivera, Juan Cantu, and James Clancy.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending April 3, 1992)

Cape Canaveral	573
GD Space Services	62
Hammond	50
Harlingen	345
San Diego	3,074
Vandenberg	259
Other Offsite Locations	38
TOTAL	**4,401**

CCAFS Promotes FOE/FOD Program

By Terry Barnett, CCAFS Quality Assurance representative

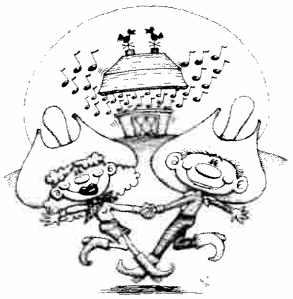
Space Systems Division employees at CCAFS have taken one more step in eliminating Foreign Object Damage (FOD) in the division's products.

Keith Chapman, a senior engineer — Quality at the Cape, has designed a logo to be printed on plastic trash disposal bags in all work areas. These bags will provide workers with a convenient way to dispose of trash generated during their daily tasks – Foreign Object Elimination (FOE) at work.

The message on the bags is designed to encourage pride in doing good work and to keep the FOD message in the forefront daily. Keith has also designed and implemented a class on FOD awareness at the Cape.

FOD is a major concern, and CCAFS is making FOE a number one priority.

NMA To Hold Wild West Barn Dance



Roy Bennett, division vice president – Material, and the GDSS National Management Association are invitin' y'all to attend a Western Barn Dance on April 24.

"The Barn," a hip-hollerin' place in San Marcos, is the site for this good ole time. The waterin' hole opens at 6 p.m. with plenty of thirst-quenchin' drinks fer everyone. A mouth waterin' BBQ feast will surely fill ya up.

But the real fun's just beginnin'. There'll be a knee-slappin' country-western band playin' yer favorite country tunes, along with a bit of oldies rock 'n roll. They'll even be dancers to help teach you city folks how ta two-step.

And, if yer really a wild one, jump on the mechanical bull for a bit of a ride! There'll also be a wagon full of great prizes ta support the NMA scholarship fund.

So, grab one of them NMA Boosters for a ticket, only 15 buckaroos, for a hoot of an evenin'. There's lotsa fun to be had — hope ya'll will join us!

Thank You, Move Team. *The GDSS San Diego vehicle move team (pictured above) was recognized recently for their outstanding performance in transporting two Atlas II boosters, two Atlas II Centaurs, and one Titan/Centaur to CCAFS, FL. They also returned a Titan/Centaur to the Kearny Mesa Facility. In appreciation of their hard work, a recognition breakfast was held in their honor on March 30. A follow-up story about their efforts will be featured in a future issue of the* Orbiteer.

GD Resources Not for Personal Use

Division employees need to remember that it is a violation of company business conduct policies to use company telephones for personal calls, and use the copiers for personal business.

"We have had a problem where a number of employees have accumulated an excessive long distance phone bill on their company telephone, all for personal business," Fran Richardson, GDSS Ethics director, said recently.

It is also considered a misuse of company property and resources to put a GDSS phone number on business cards for business other than that dealing with GD. For example, people calling John Doe at work to order non-GD products because his GDSS work number was on his outside business card would be in violation of company policy.

If you have questions on these or any other business conduct policies, please call the Business Ethics hotline at 43263.

Patent Review Board to Meet

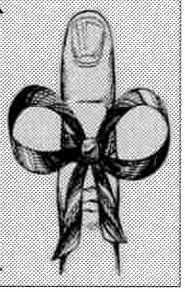
The next Patent Review Board (PRB) for Space Systems Division is scheduled for April 28. All invention disclosures submitted by April 21 will be reviewed.

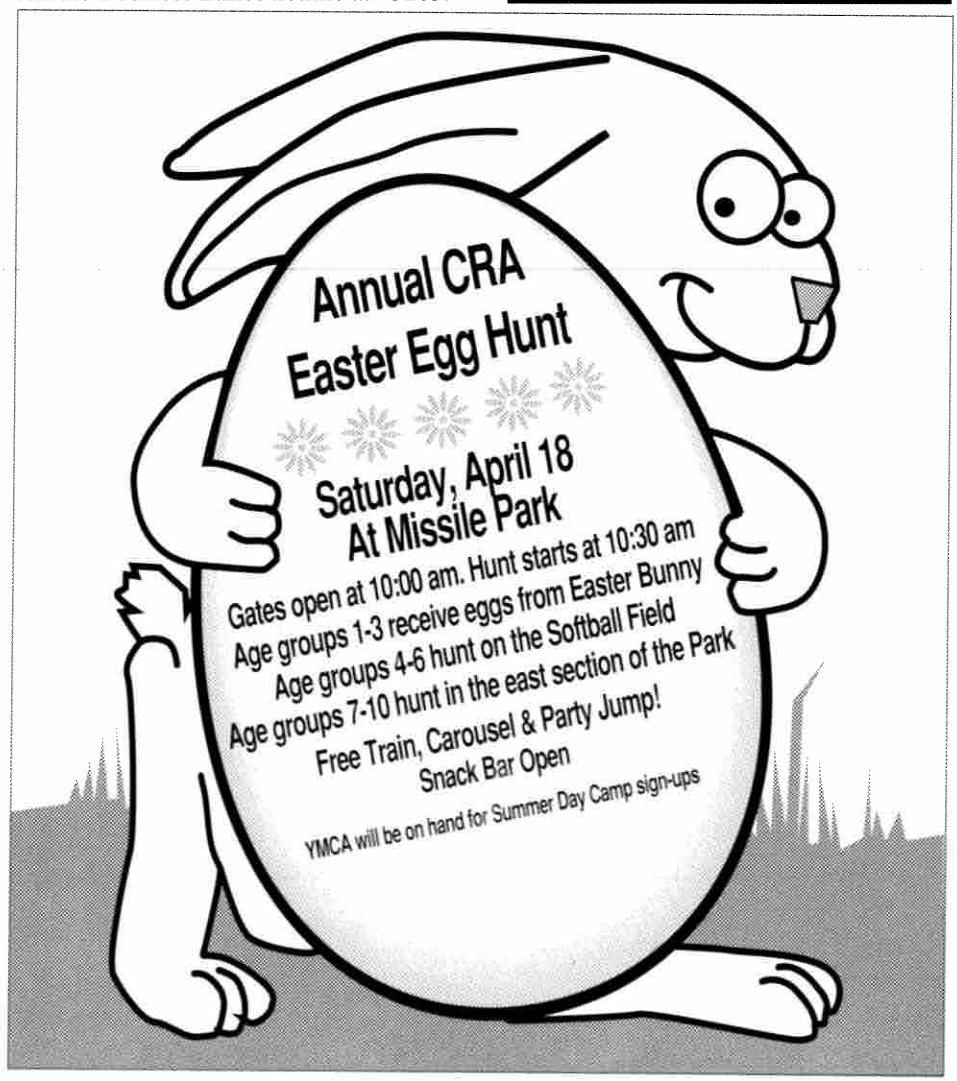
The PRB is a panel of experienced, senior engineers in various technology fields. They review invention disclosures and decide which inventions are potential patents.

Call John Duncan, Patent counsel, at 73542, or Ted Parsons at 73402, if you have any questions.

REMINDER

Don't forget WalkAmerica is April 25. Contact Sheryl Squires at 41174, or your department's team leader for more information.





NASP Test

Continued from front page

"The tank's successful test is a major accomplishment, following four years of smaller tank tests and development," Kevin Cope, Engineering specialist, said. "The test proves that advanced composite materials can not only save weight in regular structural applications, but can be used for liquid hydrogen tank structures as well."

Both the Fort Worth and Space Systems Divisions of General Dynamics were involved in the Task D project.

Please Recycle Your *Orbiteer*

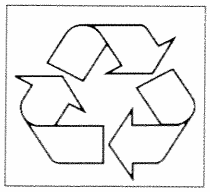
In response to recent employee concerns, we've decided to clear up some questions about the *Orbiteer* and whether or not it can be recycled.

First of all, yes, we encourage that you recycle the *Orbiteer* (after it's been read, of course). Tom Edwards of Facility Services says that the paper and its shiny finish do not prevent it from being used again in the recycling process.

The *Orbiteer* is printed on recycled paper. This paper is created from paper that has been placed in recycle bins across the nation. Recycled paper can be used many times.

By recycling used paper, we save trees, oil, and energy, thus saving resources and valuable landfill space.

So please, place your *Orbiteer* in the colored paper recycle bins located in your work area – and continue to recycle other papers as well.



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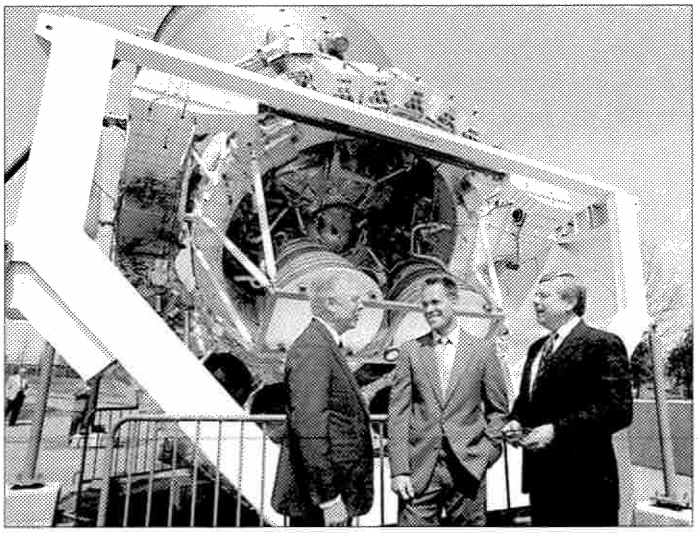
ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

May 1, 1992

Centaur G-Prime Newest Addition to the U.S. Space & Rocket Center

The most efficient, high-energy upper stage in the world today is now on permanent display at the U.S. Space & Rocket Center in Huntsville, AL. The Centaur G-Prime Upper Stage Vehicle, built by GDSS, has just been added to the center's Shuttle Park, located beside the world's only full scale mock-up of the Space Shuttle.

"General Dynamics is proud of the role our Centaur has played in furthering our knowledge about the solar system," Mike Wynne, division vice president and general manager, said during the exhibit dedication ceremony held April 9 in Huntsville. "Thanks to the dedicated people who made it possible, this exhibit will continue to educate visitors to this fine museum about the importance of planetary space missions."



The new Centaur display at the U.S. Space & Rocket Center was dedicated on April 9 in Huntsville, AL. Standing in front of the exhibit are George Philyaw, program manager at the GD Huntsville Office, Mark Kaszubowski, lead engineer of the Centaur refurbishment project, and Carey Riley, division vice president – Business Development. (Photo courtesy of The Huntsville News; Jim Taylor, photographer)

The Centaur on display is one of the first ones built at GDSS for the Shuttle/Centaur program, and was used for structural testing. The program was cancelled after the *Challenger* accident due to a lowering of the acceptable risk for manned space programs.

A group of General Dynamics retirees, led by Joe Miller and Ken Lemley, began refurbishing this vehicle in October 1990. Mark Kaszubowski, a GDSS employee, acted as lead engineer on the restoration project. Volunteers put in long hours of hard work under difficult conditions. At times, they had to enter the Centaur through a two-foot opening and spend hours in the less-than-comfortable tank.

One of their major challenges was to build an internal framework to maintain the vehicle's shape without internal pressure. The group also assembled all the secondary structures bolted on the Centaur display, and in some cases even built replicas of missing components. NASA and U.S. Space & Rocket Center personnel also worked to install the vehicle at the exhibit site.

Centaur, which pioneered the use of liquid hydrogen as a rocket fuel, had its first successful flight in November 1963, long before the Shuttle program ever began.

Please see **Centaur Dedication** *on back page*

GDSS Looking at Expansion Opportunities for Huntsville Office

Projected future business growth for the Centaur Upper Stage vehicle could mean an expansion of operations in Huntsville, AL.

Currently, there are 35 GDSS employees at the NASA Marshall Space Flight Center in Huntsville. General Dynamics has maintained an office in Huntsville since 1959.

"By the end of the year, we expect to have 45 employees at our Huntsville Office," Carey Riley, division vice president – Business Development, said while in Huntsville for the Centaur exhibit dedication ceremony. "Our longer range plan, driven by our contracts for Marshall Space Flight Center, is 200 people. We think that's realistic in the next few years."

Future business could depend on the selection of the Centaur for use in the joint NASA-Defense Department National Launch System program, he added.

"Our belief is the Centaur, with its evolutionary capability, could be baselined for the NLS upper stage," Carey Riley stated. "It's the most cost-effective solution. It's proven and it's reliable."

The Centaur could also be used for future potential planetary missions as a propulsion system on space transfer vehicles, shuttling payloads to and from the Moon and Mars, as well as to and from Space Station *Freedom*.

"We are here today to grow our community involvement," he stated. "Our intention is to become a permanent part of the Huntsville community, a major supplier of products to the Huntsville

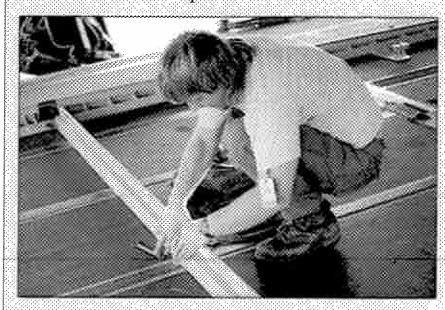
Please see **Huntsville** *on page three*

Move Team Transports Vehicles Safely and On Time

The GDSS San Diego vehicle move team was extremely busy February 24 through March 4. During this time, they transported two Atlas II boosters, two Atlas II Centaurs, and one Titan/Centaur to Cape Canaveral, FL, and returned one Titan/Centaur to the Kearny Mesa Facility.

In the course of these moves, the team established a new standard of under five hours for loading the C-5 aircraft. All planned milestones were met, and the vehicles were transported without injury to personnel or damage to equipment.

Planning for such events begins weeks before the move day. Equipment preparation, crew training, procedure development, scheduling, and coordination are all essential elements of the process.



Ray Sibilio, a Ground Support Equipment mechanic, installs Titan/Centaur loading track on the C-5 aircraft.

While the division's Traffic representative coordinates C-5 airplane schedules with the U.S. Air Force and U.S. Navy, the Material handling experts are busy finalizing procedures. Transportation riggers and Production mechanics work simultaneously to prepare handling equipment. The Transportation supervisor and Production test conductor set up and conduct walk-through training exercises for everyone on the team. Team members from the Quality Assurance department also add their expertise to all of these activities.

As moving day approaches, handling equipment is moved to the load site and crew schedules are rearranged to accommodate the early morning report times. Meanwhile, final vehicle preparations are completed in the factory.

The GDSS vehicle move team starts loading Atlas/Centaur 103 onto a C-5 aircraft at Miramar Naval Air Station.

The actual move day begins at about 2 a.m. with a final verification drive by the Transportation supervisor of the vehicle convoy route. At the factory, other team members are busy with last-minute vehicle preparations for travel to Miramar Naval Air Station.

The move team completes load track installation. This process is critical to ensure proper vehicle positioning.

The vehicle moves occur at these early hours to take advantage of the limited traffic. The first vehicle to move is the Atlas booster, followed shortly by the Centaur.

By the time the second vehicle arrives at Miramar, the advance contingent of the load team has the electrical generators providing operations lighting. The Air Force crew has the C-5 open and in position for loading, and the Space Systems Division crew starts load kit installation. Although the pace may appear frenzied, it is also apparent that a well thought-out plan is being worked.

Soon the booster is on the load track being placed into the C-5. The crane is moved into position to lift the Centaur from its trailer to the load track, where it follows the Atlas aboard the C-5. The load team then completes tie-down operations and the airborne tank watch crew connects and tests their equipment in preparation for the long flight to the Cape.

After barely five hours, the C-5 load operations have been completed. It is once again evident that this success was the result of careful planning and outstanding teamwork.

Centaur 101 is positioned to be lifted off the transport trailer for loading onto the ground track for placement in the C-5.

5/1/92

Huntsville

Continued from front page

customers, and a provider of jobs to the Huntsville area."

In order to accomplish these goals, the Huntsville Office has instituted a growth plan and update process called the Huntsville Operating Plan (HOP). This plan outlines new business opportunities for Huntsville growth and business related to the San Diego facility.

"The HOP includes programs based on Centaur derivatives as well as some other programs, which are a bit different than typical Atlas and Centaur systems, but are steeped in our core technical competencies," John Karas, Huntsville site director, stated. "I'm sure this growth will happen provided we maintain and expand the great talent we already have in place locally, and interact with the customer on a daily basis."

Security Refresher Briefing To Be Held

All Space Systems Division employees who hold a government security clearance are required to attend one of the upcoming Security Refresher briefings. Attendance at a briefing is a requirement of the Department of Defense Industrial Security Manual 5220-22M.

If you have a security clearance, please call Industrial Security at 44582 to sign up for one of the dates listed below. All briefings will be held in the Max Room of the GDSS Conference Center located in KM Bldg 24. Maximum capacity in the room per briefing is 150 employees, so reserve your spot now.

Briefing Times Available:

May 8	8:00 - 9:00 a.m.
May 12	1:00 - 2:00 p.m.
May 20	8:00 - 9:00 a.m.
May 20	1:00 - 2:00 p.m.
May 22	8:00 - 9:00 a.m.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending April 17, 1992)

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Hammond	83
Harlingen	333
San Diego	3,064
Vandenberg	250
Other Offsite Locations	38
TOTAL	**4,394**

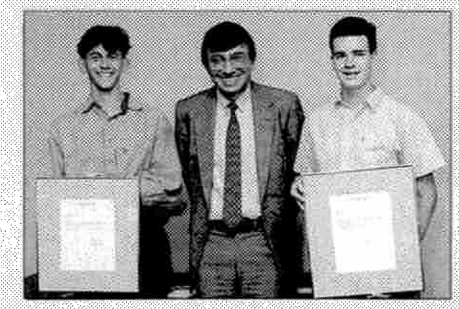
GDSS Gives Scholarships to Greater San Diego Science Fair Winners

On April 20, Bob DiNal, division vice president – Research and Engineering, presented two San Diego area students with $500 scholarships for their winning entries in a local science fair.

Matthew Dilligan of Point Loma High School and Brian McDonald of St. Didacus were honored with the Space Systems Division Awards at the 38th Annual Greater San Diego Science and Engineering Fair.

Matthew's winning project was entitled "Aerodynamics Efficiency: Reducing Eddy Formation of Rearward Tapering." His experiment showed that a clear point exists when eddy formation begins to be a major source of drag.

Brian, an eighth grader, won the Junior Award with his entry called "Kite Kinetics: An Aerodynamic Approach." Using four kite designs, he demonstrated which design permits maximum maneuverability in light, moderate, and heavy wind conditions.



Matthew Dilligan (left) and Brian McDonald were presented with award certificates by Bob DiNal, division vice president, on April 20.

The competition was stiff, with 657 science fair exhibits entered by students in the seventh through twelfth grades. Entries were in 13 categories of science and engineering.

Judges for the GDSS awards were employees Laura Richard, Don Lesney, Patricia Wussler, Joe Hassinger, and Neil Krey, and Yolanda Mendoza.

Cape Employees Judge Local Science Fair

General Dynamics Space Systems Division at Cape Canaveral Air Force Station recently participated in the Special Awards Program for the 1992 Regional Science and Engineering Fair. Several Cape employees volunteered one Saturday morning to recognize exceptional junior and senior high school students for their efforts in the fields of science and engineering.

Tony Barnini and Dan Shoemaker were judges for Environmental Science, Dan Smith and Eb Farris for Engineering, and Kim Winters and Doug Norkus for Earth and Space Science. First, second, and third place winners in each category received plaques or certificates of recognition from General Dynamics.

"I'm thankful for the opportunity to have participated in this educational event," Kim Winters said. "The fair gave me a chance to support our local schools, but most of all a chance to work with the children of our community."

Space Systems Inventors

These employees have been credited with the following inventions. Patents have either been applied for or awarded to them by the U.S. Patent Office.

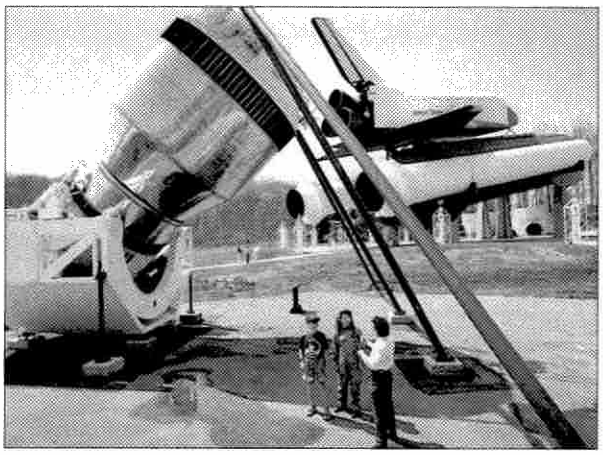
Alan Schuler of Structures, Mechanics, and Fluid Systems, and **Dan Wiley**, Systems Engineering, received a patent for their invention entitled "Liquid-Solid Propulsion System and Method." They developed a high-performance, safe, nonpolluting thrust-controlled liquid-solid propulsion system by using separate tanks for the liquid and solid propellants, a heat exchanger, thrust changer, and appropriate propellant control valves. Both employees have received framed certificates, copies of their patent, and patent award checks.

John Porter and **Paul Sager**, both of Systems Concepts and Design, sent a patent application to the U.S. Patent Office entitled "Integrated Aerospike Engine and Aerobrake for a Spacecraft." This invention improves the design of an aerobrake for optimum installation and performance of the rocket engine and brake systems in a space vehicle. These employees each received a patent award check.

Centaur Dedication

Continued from front page

Since that time, Centaur upper stages helped launch the seven Surveyor precursor missions that preceded the Apollo landings on the Moon and the two Viking spacecraft missions to Mars that provided photographs and data for seven years. Also with boosts from Centaur, two Helios spacecraft were brought closer to the Sun than any previous man-made object and Voyagers 1 and 2 headed toward the outer planets and transmitted thousands of historical photographs showing Jupiter, the Jovian moons, and Saturn. Voyager 2 even went on to visit Uranus and Neptune.



Centaur joins a display of a Space Shuttle in the U.S. Space & Rocket Center's Shuttle Park. Dwarfed by these two exhibits are two Space Campers and James Hagler, the curator at the rocket center. (Photo courtesy of The Huntville Times; Dave Dieter, photographer)

Centaur G-Prime was originally designed to launch planetary missions from the Shuttle. A modified Centaur is now being built for the Air Force's Titan IV program to launch Shuttle-class payloads. Centaur continues to prove its reliability and ability to accept advanced technologies in electronics and structural design.

"We are very excited about this newest addition (the Centaur), which has played such a vital role in space exploration," Ed Buckbee, the director of the U.S. Space & Rocket Center, said. "General Dynamics has always been a big supporter of ours and this new Centaur display is further evidence of that."

They got their degrees. Congratulations to the employees pictured above, who, with assistance from the Tuition Reimbursement Program, successfully earned college degrees.

Front row: David Ibarra, M.S. Systems Management; Jennifer Meehan, B.B.A.; Randy Jackson, M.S. Mechanical Engineering; **Back row:** Laura Olsen, M.B.A.; Harold Hahn, M.B.A.; Gary McAnally, M.S. Systems Management; Sue Kopp, M.B.A.; Ken Gowen, manager of Organizational Effectiveness. **Not shown:** Susi Cowan, B.A. Business Management; Bob DeLibertis, B.B.A.; Curt James, M.B.A.; Tim Kilbarger, M.S. Engineering Management; Brian Merrill, M.B.A.; Chris Oswald, B.B.A.; Tom Russell, M.B.A. Finance; Stan Skripkus, M.B.A.; Ezell Wills, Material Acquisition and Contract Management.

Retirees

Thanks & good luck to these GDSS employees who recently retired:

Jacqueline M. Brewer
Product Delivery Analyst ..... 14 years

Paul Buchy, Jr.
Engineering Chief ..... 38 years

James A. Crush
Engineer Sr. – QA ..... 32 years

June L. Denaro
Executive Secretary ..... 34 years

Richard T. Guerrera
Financial Analyst ..... 8 years

Alan E. Harris
Project Engineer Sr. ..... 34 years

James A. Kelly, Jr.
Production
Specification Sr. ..... 30 years

James R. Kerr
Engineering Specialist Sr. ..... 29 years

Audrey G. McCullough
Logistics Administration ..... 40 years

Maridee C. Petersen
Staff Secretary ..... 30 years

Marilyn A. Smith
Secretary ..... 30 years

Joseph J. Stack, Jr.
Group Leader – LGMA ..... 30 years

Robert E. Tatro
Program Manager ..... 35 years

Clarissa Troxel
Engineering Electronics
Technician ..... 10 years

Glen B. Yates
Engineering Specialist Sr. ..... 36 years

Consuelo Zuniga
Secretary ..... 35 years

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

May 15, 1992

Thank you, Veterans!

Desert Storm Veterans Honorably Served Their Country

During Operation Desert Storm last year, 17 Space Systems Division employees were called to active military duty. On the eve of Armed Forces Day, it is important that we recognize the sacrifices, hardships, and danger faced by these people who honorably and faithfully answered our nation's call to arms.

Space Systems Division - San Diego

Eleven San Diego employees served during the Gulf War. They included: David Delassus of Space Systems Structures, Jack Funkhauser of Estimating, Robert Ratcliffe of Information Resource Management, Ken Robinson of Plant 19 Business Administration, Debra Alfaro of Centaur Final Assembly, Ralph Brice of Plant 19 Dispatch, Michael Gillis of Facility – New Construction, Jose Gutierrez of Systems Effectiveness Audit, Bernard Kozlosky of Receiving Inspection – Hydraulics, Michael Nadeau of Welded Assembly and Tank Manufacturing, and Gary Snyder of Centaur Final Assembly.

Col. William T. Baugh and Ken Robinson (third from right) present awards of appreciation to GDSS supervisors (left to right) Dave Clausen, Tom Chapman, Mike Iverson, and Ed Squires.

Ken Robinson served with the U.S. Army Reserves in Saudia Arabia. In appreciation of the support shown by General Dynamics and his supervisors, Ken recently presented recognition awards given by the National Committee for Employee Support of the Guard and Reserves. These awards were given to Ed Squires, division vice president – Production, Mike Iverson, director – MRP II/IRM, Dave Clausen, Production manager, and Tom Chapman, Financial specialist. U.S. Army Col. William T. Baugh was present when Ken gave his supervisors their certificates of appreciation.

"Thank you for allowing one of my soldiers to work in Desert Storm without having to worry about his job position back home," Col. Baugh said.

Cape Canaveral AFS

Abe Wehby and Steve Mettar, launch service mechanics at CCAFS, were activated for duty during the Gulf War.

Abe served with the 300th Military Airlift Squadron U.S. Air Force Reserves, where he was a flight engineer for the C-141 aircraft. He monitored the aircraft's systems as it transported cargo to Saudi Arabia.

Steve Mettar was sent to Ft. Rucker, AL, with the C Company 4th Aviation Battalion of the U.S. Army Reserves. He was responsible for maintaining support of the battalion's helicopters.

Please see **Desert Storm Vets** *on page three*

CCAFS recognizes its Desert Storm veterans. Pictured left to right are: Marty Winkler, GDSS deputy general manager; Janet Goforth, Human Resources director; Steve Mettar; Abe Wehby; Benny Price, local chapter president of the International Association of Machinists and Aerospace Workers; Steve Mosely, chief union steward; and Frank Watkins, Base Operations director.

Corporation Designates Space Systems a Core Business

On May 6, General Dynamics Corporation announced that the company intends to focus on four core businesses: Tactical Aircraft, Nuclear Submarines, Armored Vehicles, and Space Launch Systems.

"I believe our four core businesses cumulatively represent one of the strongest, most tightly focused companies in our defense marketplace," Bill Anders, chairman and chief executive officer, said at the annual shareholders' meeting held in Lima, Ohio. "As we move forward, each of these businesses will be aggressively managed for continued high quality, technical excellence, manufacturing efficiency, and market leadership."

"... we have demonstrated that we hold the key to our own future."
– Mike Wynne, GDSS general manager

In a division notice distributed to all employees after this announcement, Mike Wynne, GDSS division vice president and general manager, congratulated employees for their efforts in demonstrating high reliability, high product quality, and low cost to the corporation.

"With our focus on customer satisfaction, we have had successful launches, followed by successful sales, and now we see this announcement as a recognition that our collective efforts have been recognized by General Dynamics' leadership," he said.

Please see **Core Business** *on back page*

MRP II Training Becoming a Reality

By Ron Miller, MRP II Training Administrator

General Dynamics Space Systems Division is rapidly moving on its journey to become a Class A Manufacturing Resource Planning (MRP II) company. Class A, considered the industry benchmark for MRP II, is the level of achievement we must attain to be competitive in the space launch market. This benchmark was developed to help companies analyze and evaluate their operations, appraise their effectiveness in planning and controlling their business, and manage their continuous improvement processes.

To successfully implement Class A MRP II, employees must receive considerable education and training – in fact, the division goal states all employees should receive MRP II overview education. In support of these requirements, a division education and training program has been developed and is currently being implemented.

Doris Ivanov of Finance (standing), Tony Ventresco of Engineering, and Jeanne Scott of CSC, discuss MRP II curriculum development for their respective departments.

Our major focus to date has been education, with hundreds of employees receiving MRP II education of one form or another. This is the result of a joint effort between the Oliver Wight Companies, leaders in MRP II education for more than 20 years, and division MRP II training personnel. The program consists of a MRP II Overview, a MRP II Video Education Program, and a variety of MRP II education classes developed and presented by the Oliver Wight Companies. Presently, the highly successful first round of video education is being completed at Plant 19 and is beginning at Kearny Mesa Building 5 and in core functions around the division.

Training materials for the MAC-PAC/D and PROCUREMENT/D software are being developed by the division's functional departments for the modules used by their personnel. This software integrates on-line manufacturing, planning and control, and procurement systems. Technical assistance is being provided by the Computer Sciences Corporation and Andersen Consulting, our software supplier. User training for personnel is broken into phases or *slices*. The following schedule has been developed for MRP II user training:

Slice 1	Plant 19	June 1992
Slice 2	Plant 19	October 1992
Slice 2P	Purchasing functions for Plant 19	December 1992
Slice 3	Kearny Mesa	Early 1993

In 1982, the California Employment Training Panel was created as a cooperative business-labor program. The program was conceived as an experiment to determine whether training funds could be used effectively to improve economic efficiency and ease the trauma caused by the accelerating rates of economic change and technology gains. This unique concept was designed with three general goals in mind: enhance the employment security of California workers, help businesses become as productive and capable as possible, and strengthen the state's economy.

The cost associated with MRP II implementation and the competition over funds for other mandatory division training severely limits division funding available for MRP II training. With this in mind, GDSS, with the support of the International Association of Machinists and Aerospace Workers, decided to apply to the Employment Training Panel for financial assistance for the division's MRP II training project.

On April 24, our project was approved by the Employment Training Panel, and the division was awarded $560,000 to support the training. This is a significant amount, and means that we will now be able to retrain more of our employees and train them more extensively.

We all must recognize the importance of the division MRP II education and training program. It is the kind of investment we must make to ensure that MRP II will be successful in attaining Class A status and to make us *the Best in All of Space.*

GD Security Measures Decrease Auto Theft

In response to employee concerns regarding auto theft in GD parking lots, the security department recently announced that statistics show a dramatic decrease in auto theft at GD in the last two years.

"This decrease is mainly due to the increase of security officer patrols in the parking lots, the installation of TV surveillance cameras at certain strategic points, and the improvement in parking lot lighting," Ron Davis, director of Space Systems Division Security, said. "Greater employee awareness and intervention also are contributing factors."

Car thefts and break-ins throughout the country are hitting record highs, and San Diego still maintains one of the highest crime rates for auto theft in the nation. According to local law enforcement agencies, 35,480 vehicles were stolen in San Diego County in 1991, a decrease from the previous year. Thefts and break-ins are most prevalent in large parking lots, such as those at shopping centers, airports, and large companies.

Employee awareness may be our best defense against auto theft.

"With our increased security measures, we feel our parking lots are generally safer and better protected than most in San Diego," Davis added.

The highest rate of auto theft occurs with pickup trucks by Toyota, Ford, and Nissan, Chevy Blazers, Honda Preludes and Accords, Volkswagon Jettas, and Mazda coupes and sedans. But, even if you don't drive one of these, it doesn't guarantee that your car will be safe.

There are several ways you can personally protect your vehicle from auto theft. Always lock your car doors and roll up all windows. Never leave personal items, such as purses, tote bags, gifts, jackets, etc., in plain view. Vandals will break into a car just to steal a gym bag.

Always park in a well-lighted area, as close to the facility or building as possible. Also, install anti-theft devices, such as car alarms, steering wheel

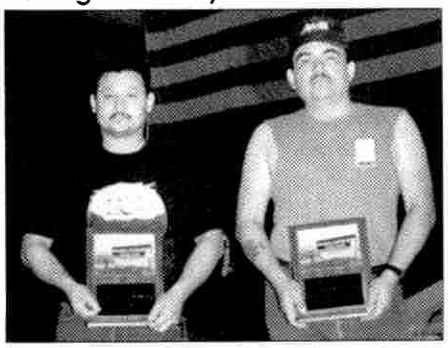
Please see **Auto Theft** *on back page*

5/15/92

Desert Storm Vets

Continued from front page

Harlingen Facility



Claudio Romero and Reynaldo Garza proudly display plaques presented to them in appreciation of their military service during Operation Desert Storm.

Two Harlingen Facility employees were called to active duty in late 1990 and early 1991. Reynaldo Garza and Claudio Romero, both of SSH Production, served stateside during Operation Desert Storm.

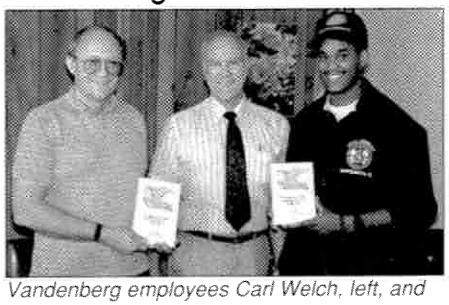
Reynaldo, who is in the National Guard 141st Infantry, reported to Ft. Hood, TX, and was later transferred to Ft. Irwin, CA, under "Operation Dixie Thunder."

"Everyone who served with me really appreciated all the support shown by the people back home," Reynaldo said.

When Claudio, a member of the U.S. Marine Corps Reserves, was activated, he served at bases in North Carolina, Louisiana, Texas, and at Camp Pendleton in Oceanside, CA.

"Even though it was my duty, it was an honor to serve," he said.

Vandenberg AFB



Vandenberg employees Carl Welch, left, and Rick Anderson, right, received their division recognition plaques from Chuck Harter, Base Operations director.

Carl Welch, of VAFB Engineering Services, and Rick Anderson, of VAFB Launch Operations, both served in Desert Storm with the U.S. Air Force Reserves.

"We are grateful for General Dynamics' support of our efforts and for giving us the time off," Carl said recently.

Becky McDonald, Beth Littlefield, Noelia Gutierrez, and Lela Reddekopp contributed to this story.

GD San Diego Helps Leukemia Society Go For the Goal

The San Diego General Dynamics divisions, along with CSC Western Center, are once again joining forces to support the Leukemia Society. The first event planned in the 1992 fund-raising campaign is an auction, both silent and live.

This event is scheduled to begin at 6 p.m. on June 26 at the Town and Country Hotel in Mission Valley. Like last year, attendees will have a chance to bid on a variety of items and services donated by San Diego area businesses. There are no minimum bids on the items featured at the auction.

Last year's big prizes included a big-screen Sony color television, a private, at-home concert by the San Diego Youth Symphony Quartet, a weekend stay for two at the Loews Coronado Bay Resort, and a dinner with a San Diego Chargers football player. The divisions raised over $20,000 at this event.

This year's planning committee is hard at work gathering even bigger and better gifts. A few of the exciting items you'll have a chance to bid on include a one-week stay at the Indian Palms Country Club, an Ethan Allen lithograph valued at $230, golf outings, a personal computer, dinners for two, and bungee jumping. Services such as manicures, massages, and haircuts will also be offered.

Everyone who attended last year's event had a great time battling over items. At a "silent" auction, items for sale are displayed on tables. Persons interested in making bids, write their names and bids on a bid list available for each item. At the end of the silent bidding, the people with the highest bids win the items.

With the auction set up this way, it's a good idea to check out the competition before bidding. Rick Sandler, Space Systems Division's manager of Employee Relations, found out the hard way.

"I found myself, at the urging of my wife, locked in a very competitive round of bidding for a beautiful lithograph. As the process went on and the price went up, people started dropping out of the competition. Soon, only one other bidder remained. I asked my wife if she *really* wanted the picture, and without a moment's hesitation, she said yes. I don't remember who had the next bid, but I do remember who had the last one. Every time I look at that picture which now hangs in my home, I remember that feeling of 'Oops' that I got when I found out who the last competing bidder was. You see, from my position in the audience, I didn't know that the other bidder was Mike Wynne, our general manager."

All proceeds from ticket sales and auction items go to much-needed patient and research programs for the Leukemia Society of America. The General Dynamics team has always been a leader in supporting this tremendous effort, and this year's auction promises to be another milestone. So come out and enjoy the excitement and great gifts, and help us to beat this year's donation goal of $20,000.

AC-105/Intelsat K To Launch On May 20

As of press time, Atlas/Centaur 105 is scheduled to launch an Intelsat K satellite into orbit at 4:12 p.m. PT on May 20. The launch hotline has been activated to provide employees with the latest information concerning this launch. Call this hotline at 573-8769 for additional information on viewing times and locations.

Core Business

Continued from front page

Wynne also stated that the division needs to continue to demonstrate our value to the corporation by increasing sales and return on capital.

"This will take all of our effort to accomplish, but we have demonstrated that we hold the key to our own future," he said. "Let's continue to become the 'Best in Space.'"

On May 11, it was announced that a definitive purchase agreement had been signed with GM's Hughes Aircraft Company to acquire all of the General Dynamics' missiles business. Hughes Aircraft Company is a unit of GM's Hughes Electronics subsidiary.

Auto Theft

Continued from second page

devices (i.e. "The Club"), wheel locks, or ignition cut-off/fuel cut-off switches. Even car covers with lock devices deter thieves.

If someone is working on your car while it is on company property, please inform the Emergency Control Center (ECC). The same rule applies if you must leave your vehicle in the parking lot overnight. The Emergency Control Center can be reached at 73101 for the Kearny Mesa facility, or 26556 for Plant 19 or the Harbor Drive facility.

If you observe any suspicious activity or individuals while walking or driving through the parking lot, immediately notify a security officer at the nearest gate or entrance to the facility, or call the ECC. Employee awareness may be our best defense against auto theft.

Long-Time Employees Honored at Jubilee

Space Systems employees who achieved 35 or more years of service since December 1990 were honored on May 4 at the "General Manager's Jubilee" at the CRA Pavilion.

Looking out over the attendees at the party, Mike Wynne, division general manager, said, "It is the dreamers and the magicians that write the history and make it come true. We thank all of you for dreaming and making magic."

At the Jubilee, Judd Giesenshlag (left) and Bob Moberly enjoyed talking about their experiences at GD over the past 35 years.

Over 114 employees were honored at this event. Those invited included: Helen Addesso, Joe Alcala, Charlie Allen, Jan Andrews, Marvin Ashbaugh, Ralph Austin, Ivadell Baughman, William Beers, Robert Bradley, Maynard Brown, Michael Chiara, Earl Christian, James Cleghorn, Sam Contasti, Mickey Cornwall, Jack Cranston, Dale Davidson, Opal Davis, Charles Day, Donald Dewey, and Edward Donovan.

Jack Easton, John Erikson, Arlander Favors, Robert Fox, Joseph Franc, and Akira Fujimoto, Helen Gallant, Joe Gamache, Bill Gibb, Lawrence Goodale, Mary Lou Grant, Lester Green, Russell, Hall, Milton Hangen, Charles Harris, David Hays, Daniel Heald, Robert Hertzberg, Frank Hinton, Francis Hogan, David Holloway, Angie Holmes, and John Hotz were also invited.

Other honorees included Eldon Isham, Donald Jastorff, Bob Johnson, R.L. Johnson, Dick Jones, William Ketchum, Vernon Kettler, Kenneth Koehl, Charles Kropp, Harlow Krumrei, David Lawrance, Harold Lee, Frank Leinhaupel, Don Lesney, Gordon Lundquist, Stanley Maki, Eulah Marshall, Richard Martin, Mitzi McCrary, Audrey McCullough, Alex McFarlan, and Bill McPike.

Fred Merino, Gary Mileur, Helen Miller, Robert Mitchell, Robert Moberly, Jimmy Myers, Sr., John Niesley, Jerry Owen, George Paul, Jim Peterson, Edward Portillo, Jeweline Richardson, Art Riffel, Howard Riner, Hilbert Romero, Rudy Romero, Dino Salvador, Walter Sauer, Bill Shiba, George Shields, Barbara L. Smith, Gerald Stephens, Larry Stoman, Joe Streetman, Bill Strobl, Robert Tatro, Russell Thomas, Vito Tocco, Maurice Tompkins, Kenneth Tucker, Glenn Tuggey, and Onofre Valdez were also honored.

Ronald Varney, Charles Wardinski, Jack Weber, Warren Wendt, Clifford West, Fred Westfall, Jerry Wicks, Bernard Wier, Denny Williams, Herman Winter, Norville Yandell, Glen Yates, Phil Yip, Will Young, Connie Zuniga, and George Zuniga also were invited.

Memorial Day, May 25, is a paid holiday.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending May 1, 1992)

Cape Canaveral	564
GD Space Services	62
Hammond	86
Harlingen	327
San Diego	3,015
Vandenberg	249
Other Offsite Locations	38
TOTAL	**4,341**

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

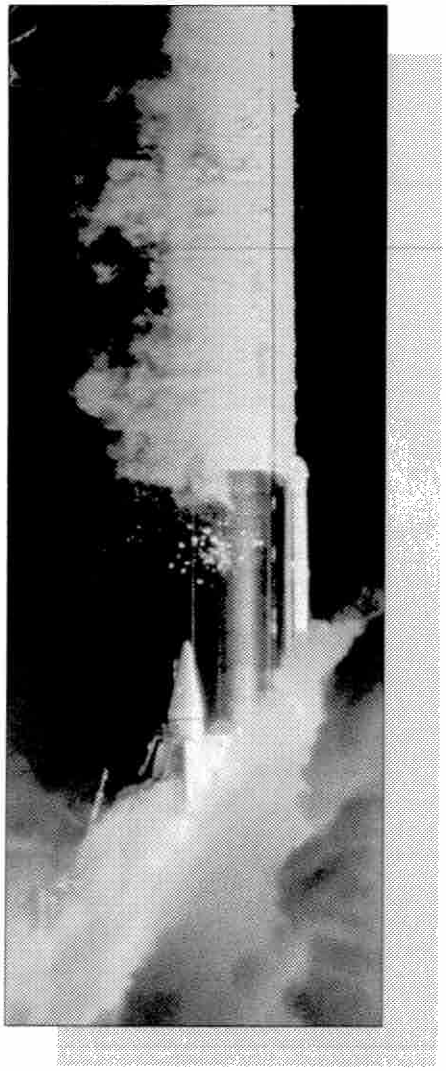
June 16, 1992

Let's Do Launch

General Dynamics Brings a 30-year Heritage to Its Commercial Satellite Launch Business

The following excerpts are from an article that appears in the summer issue of Hughes Communications, Inc. magazine, Uplink™.

"Congratulations Atlas Team!" proclaims the bright blue banner at the entrance to General Dynamics' sprawling Space Systems Division complex in San Diego, Calif. An ebullient "can do" atmosphere is evident just about everywhere you look in the plant, which produces Atlas/Centaur rockets – one of which successfully carried Hughes Communications' Galaxy V satellite into orbit last spring.



It was the fourth successful launch in four months for General Dynamics, and according to Mike Wynne, the general manager of Space Systems Division and corporate vice president, the launch was a milestone in the company's four-year effort to become a major provider of launch services for commercial satellite customers. "Only reliable performance can build confidence in this industry," says Wynne.

Hughes Aircraft is certainly one believer. The Galaxy V launch on March 13 was the 30th Hughes satellite mission launched by an Atlas rocket.

Perhaps no other company is as well positioned as GD to achieve success in the fiercely competitive world of satellite launch services.

In the days following the successful mission, Commercial Launch Services, the business unit General Dynamics established to serve the growing commercial launch business and headed by Wynne, snared three new launch contracts. That bolstered its 30% market share and firmly positioned the company in the industry's number two spot, after Europe's Arianespace. Concludes Wynne, "We're now being rewarded by the customer community."

Please see **Let's Do Launch** *on back page*

AC-105 Launch Update

As of print time for this issue of the *Orbiteer*, AC-105 had not launched. Due to this delay, we are not able to print an article about the launch at this time. Please look for the launch article in a future issue of the *Orbiteer*.

Jim Ratliff, manager of GDSS's Colorado Springs office, demonstrates how payloads are launched into space from NASA Space Shuttles to Justin Brown, a 6th grade student from Manitou Springs (Colorado) Middle School. (Photo by Rick Pavlik)

Division Donates Model to U.S. Space Foundation

Earlier this year, GDSS donated a mechanical Space Shuttle model to the U.S. Space Foundation in Colorado Springs. The one-of-a-kind Atlantis Space Shuttle model demonstrates the deployment of the Galileo satellite. Measuring nearly eight feet in length, the model was built by General Dynamics in 1985 and had been in storage ever since.

Fred Farmer, Customer Relations' exhibit coordinator, and John Gaines, GDSS marketing manager at the division's field office in Colorado Springs, coordinated the refurbishment and donation of the model.

"I was going through the display models in storage and found the Shuttle model," Fred said. "I showed it to John and asked him if he knew of someone who could use the model."

By donating the model, Fred and John reduced the amount of storage required for exhibit materials and made a goodwill gesture in the company's name.

The U.S. Space Foundation is using the model to promote public awareness of the U.S. space program in educational programs and exhibits.

Promotions

Congratulations to the following individuals who received promotions November 1991 through April 1992. The Orbiteer is happy to take this opportunity to recognize these employees for their accomplishments.

November 1991

Otis Auclair
Steven Avilez-Strehla
James Baechle
Victor Bakke
Charlotte Barela
Raymond Barnes
Teresa Barnett
Don Bitler
Lori Bowely
Jay Breidenbach
Louis Brewer
Carlyle Brown
Ray Brown
Borden Bruce
Jaime Brusse
Paul Bukowski
Kathleen Byrne
Paul Carlander
Craig Clark
Daniel Clark
Douglas Cox
David Cunningham

a.

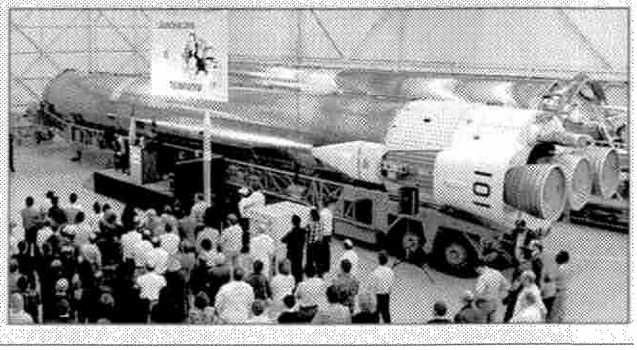
Larry Foss
Steven Fuselier
John Gagliani
John Gilbert
Mark Goecke
Jackie Golden
Richard Golden
Cynthia Gonzalez
Christopher Grainger
James Grissom
Michael Gruszczynski

b.

Dominick D'Annibale
Michele Dempsey
Robert DiTolla
Douglas Dougherty
David Dow
Kevin Dow
Thomas Downs
Joseph Dubreuil
Roger Dunn
Kerrie Ellis
Joseph Etzel
Cynthia Evans
Rod Fischer
Rebecca Fleet
Anne-Renee Foiles
J. Hall
Melanie Hall
David Hamilton
Gregg Hedlund
Licia Heffernan
M. Herre
Karl Hoyle
Janice Hughes
Sharon Hughes
Doris Ivanov
Tracy Jennings
Greg Jesensky
David Jollay
Karen Kakazu
Mark Kaszubowski
Debra Kimberling
Mark Knodle
Douglas Korbel
Kurt Kuelz
Brian Laycock
Trinh Le
Samuel Lindemuth
Randy Liuag
Samuel Long
Kimberly Lostetter
Marty Malinowski
Mervin Marone
Sharon Martinez
Kim McCall
Gary McCrary
Margarita Metcalf
Michael Miller
Roy Miller
Gary Miyata
Philip Nordhues
Brian O'Hea
Karen Oldenburger
Indu Patel
Scott Petersen
Thanh Phan
Michael Phillipp
Steve Pidcoe
William Pierce
Patricia Pierson
Daniel Ramirez
Neil Rebbetoy
Lori Ringler
Randall Sanner
Gregory Santini
Steven Sarafa
Dirk Schreier
Mark Sedillo
Ronald Sees
David Sisk
Lester Smith
Ronnie Smith
Sharon Spearman
Marc Speck
David Stallard
Raymond Stevens, Jr.
Denise Stone
Scott Stutzman
Jerry Taylor
Patrick Thibodeau
Vernon Thorp
Sophia Trujillo
Marianne Valencia
Jeffrey Valley
M. M. Van Der Werf
Robert VanEvery
Jill Wagner
Francis Wakabayashi
Richard Waterman
Kenneth Watson
Jerald Wilken
Ezell Wills, Jr.
Gary Wilmot
Debra Wilson
Gena Wise
Mark Wollen
Michelle Won
Joe Ybarra
Robert Zurawski

December 1991

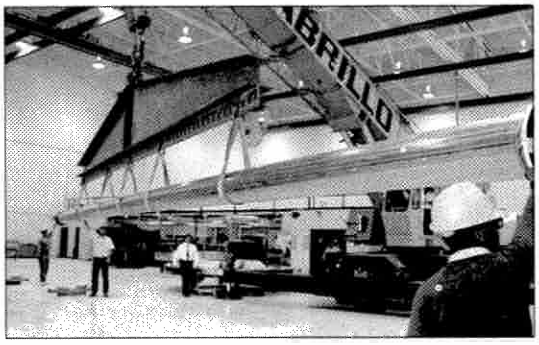
Charles Abel
Keith Adams
James Adler
Sheryl Anderson
Frank Bernas
David Berry
Jack Bishop
Emanuel Bucur
Craig Bullock
Patricia Bullock
Kenneth Bychak
Patricia Casey
Anthony Christensen
Dennis Coburn
Bruce Coensgen
Janice Conner
Frank Cowan
Jack Cranston
John Crocker
Robert DeLibertis, Jr.
Barbara Fager
Marian Fite
Hans Frazier
Chris Galvan
Gerald Gordon
Michelle Granet
Rhonda Green
Mark Hersom
Alden Holmes, Jr.
Patrick Houle
Delbert Ingalls
Frances James
Nancy Jamison
Mark Jensen
Russell Johnson
Dean Jorde
Lance Lenkiewicz
Barry Levin
Joseph Lookenbill
Gordon Lundquist
Kathleen Manrique
Marcella Martin
Nolan Mathews
Nancy Michels
Irene Pacropis
Jeffrey Pate
Daniel Pedersen
Carla Pohlman
Paul Ranyak
Randall Reynolds, Jr.
Nancy Rose
Sandra Russo
Sherry Russo
Kenneth Schreiner
Jonathan Sessions
John Silverstein
Jeffrey Smith
Paul Van Alstine
Kelly Wallace
Carolyn Wilson
Richard Wilson
Hugh Winn
Eric Zucker



c.

January 1992

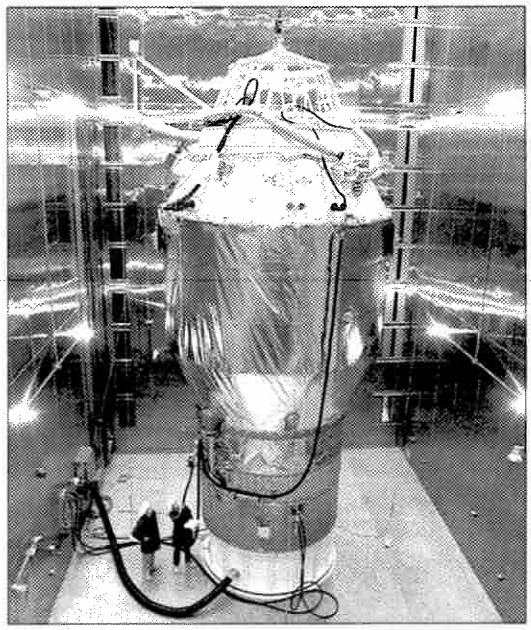
Sylvia Cantu
Miguel Champion
John Clement
Cecilia Cortez
L. Jaine Derrough
John DiRe
Tom Eggert
Rosalinda Galvan
Marlys Garrison
Jose Gutierrez
Cynthia Hilsenbeck
Frances Hughes
Glinda Johnson
Myrna Koval
Gary Lewis
Margaret Longo
David Mazaika
William McCurdy
Kathleen McGuinness
William Messer
Jill Moeller
Hermelinda Morales
Richard Neal



e.

February 1992

David Bermudes
Charlene Brancato
Margaret Burns
Frank Coria
Steven DeBry
Dennis Garegnani
W. Judd Giesenschlag
Rebecca Goffar
Thomas Heter II
Theodore Hopkins
Richard Jennings
Foster Kimball
Kevin Ladner
Kenneth Miller, Jr.
Stephen Moes
Brian Niznik
Eugene Perkins
Lela Reddekopp
Ricardo Reyes
Daniel Rupert
Lillian Soto
Raymond Stevens, Jr.
Dianne Swanson
Timothy Welch
Gary Willms



d.

March 1992

Ronald Clyburn
Jerry Frazier
Charles Goforth
Richard Goodwin
Ernest Gravelle
Siobhan Melatti
Jackie Parker
Martha Paulin
Charlie Tuck

April 1992

Daryl Bever
Tanya Dawson
Norita Gompers
Elaine Hall
John McGrath
Mary Noriega
David Oborsh
Ric Opp
Patty Palacios
Violeta Pingol
Robert Porter
Robert Powers
John Schlank III
Judy Schweitzer
Patricia Shelanski
Julieta Umland
Alicia Villarreal
Grant Williams

Photos:

a) AC-69 Rollout Ceremony at Kearny Mesa Facility, March 1990

b) TC-8 and TC-9 pass at CCAFS at the base of VIB Cell 3, December 1991

c) AC-101 Rollout Ceremony at Vandenberg Air Force Base, February 1991

d) TC-8 in thermal test chamber for mission simulation and thermal testing, September 1990

e) Prototype dipole magnet transferred to Harbor Drive Facility, April 1992

Steam Train Rolls Into CRA Station for Summer

By Robert M. Trometter

Visitors to CRA Park can now relive the golden age of trains from 11 a.m. to 3 p.m. on the first and third Saturday each month. That's when the Fifty-Five-O-Eight, currently the largest fully operational steam locomotive in San Diego, wheels its way around the 27-acre park.

This marks the first season that a steam engine has ever run at the park's half-mile miniature train track, which has delighted over a half-million GD passengers since 1968. But the custom-built "steamer," on loan to the CRA train club, is quite different from its diesel locomotive counterpart.

During a "shakeout" exercise at CRA, one eight-year-old was overheard saying, "Wow, Dad. Now that's a REAL train."

Dave Porter, who's been operating the steam engine during its seasonal run, agrees.

"There's nothing like steam," Porter said. "With diesels you just press a button and go. Once you get that steam engine going, you feel like you've really done something."

It takes at least two hours to prepare the steam engine for passenger travel – an involved process that includes boiling the water, filling the oil reservoir, and gradually raising the pressure to 125 pounds. Porter said it would take someone two or three full seasons to learn how to operate and maintain this particular steam locomotive.

CRA's Steam Team (from left to right, back row) Robby and Spence Maynard, Pete Havier; (left to right, front row) Wayne Danforth, Fred Bevan, Richard Priest (builder/owner), Henry LeClair, and Dave Porter. Not pictured: John Meyer and Chuck Lamb. (Photo by J. Scott Crist)

Rest assured this is no toy. It's as real as any "Iron Horse" that helped link America in the late 1860s – just smaller. The 5508 details include a whistle that was used on the Southern Pacific Daylight Freedom Train. The Freedom Train toured the country during Bicentennial celebrations in 1976.

Designed, built, and owned by Richard Priest of

Please see **Steam Train** *on back page*

Let's Do Launch

Continued from front page

Perhaps no other company is as well positioned as General Dynamics to achieve success in the fiercely competitive world of satellite launch services. The company's rich space history dates back to 1957, when the Atlas rocket was first launched. In 1962, Atlas earned a permanent spot in history books when it carried astronaut John Glenn into space – the first time an American astronaut orbited the earth. Since then it has launched most of U.S. interplanetary missions and many communications satellites.

Thirty years and more than 500 launches later, Atlas has evolved into a product line of four vehicles. All Atlas vehicles utilize a unique highly mass-efficient pressurized design pioneered by General Dynamics. The skin of the Atlas booster is constructed of surprisingly thin sheets of stainless steel, which are flexible to the touch when unpressurized. Fill the booster with propellant fuel and gases, however, and Atlas becomes strong enough to support an 8,150-pound satellite payload. The design realizes substantial weight savings compared to other launch vehicles that use more conventional, rigid structural support.

Another General Dynamics advantage is the Centaur – the upper stage that sits atop the Atlas booster. Centaur has two engines of its own, and, when combined with the three-engine Atlas booster, can deliver satellite payloads directly into geosynchronous transfer orbit. The Atlas/Centaur combination is dedicated to the single satellite per launch and enables extremely accurate placement of the satellites into orbits that maximize lifetime.

General Dynamics is also winning kudos from customers for a new procedure called "retargeting." The process involves an on-board software system that evaluates Atlas performance during its initial boost into orbit. The trajectory and performance data are analyzed by the guidance system of the Centaur, which makes navigational adjustments during its two motor burns to optimize overall flight performance.

That's just the kind of performance perk that lures satellite customers to General Dynamics for launch services. "This is a very high-anxiety business now, but future satellite launches are going to be festive occasions," predicts Wynne. From its twin launching pads at Florida's Cape Canaveral Air Force Station, eight launches are planned this year including HCI's Galaxy 1R. It's a sure bet that General Dynamics will create many a festive occasion in the coming months.

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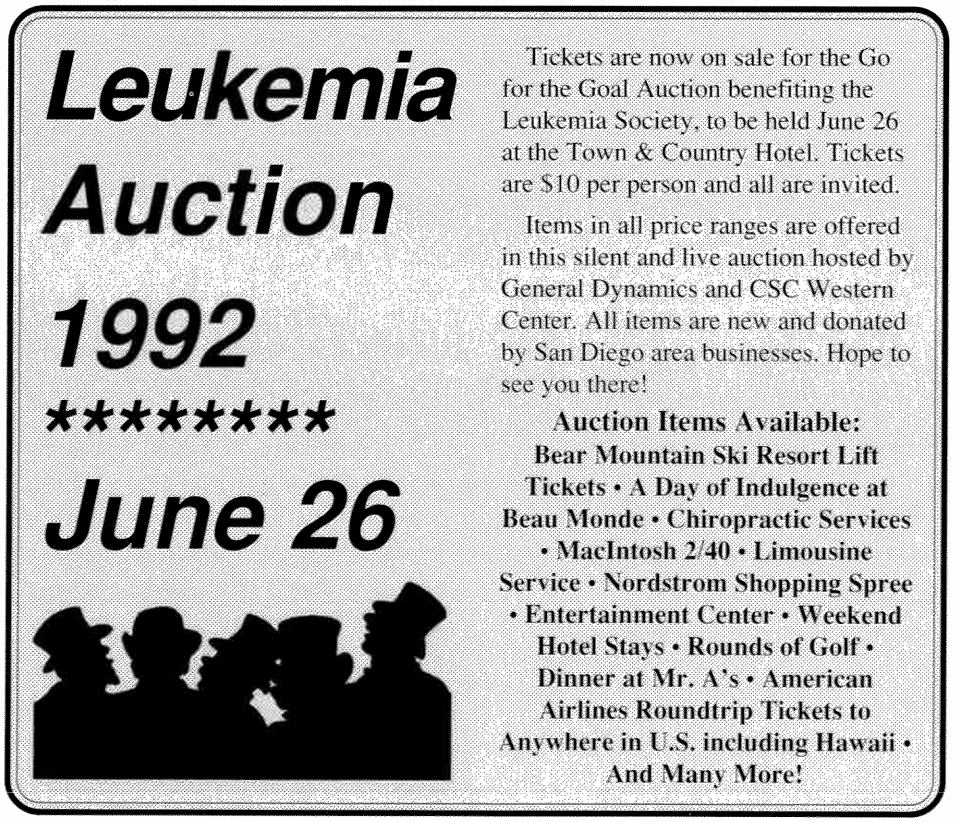

Steam Train

Continued from page three

Los Angeles, the 5508 took seven years and $100,000 to complete in 1977. Priest, whose father was an engineer with Southern Pacific for 40 years, said his engine found its way to San Diego through Henry LeClair, a long-time miniature train club member.

"I've known Henry for quite some time," explains Priest. "We discussed moving my engine down there (to San Diego) for several years. Finally, I had to move it from where it was in Santa Barbara. I liked the Convair location and thought it might be nice to try it out."

LeClair is glad he did. "Our train members are sure excited," Henry said. "We hope this might generate more interest in the club, but either way, employees will get a big kick out of it."

The big steam engines were removed from normal rail service in the 1950s, after falling victim to excessive maintenance costs. It was the end of an era. For now, GD employees, their families, and friends can ride the rail on a cloud of steam, while listening to the high-pitched whistle of days gone by. *All Aboard!*

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending May 29, 1992)

Cape Canaveral	562
GD Space Services	64
Hammond	97
Harlingen	271
San Diego	2,983
Vandenberg	245
Other Offsite Locations	40
TOTAL	**4,262**

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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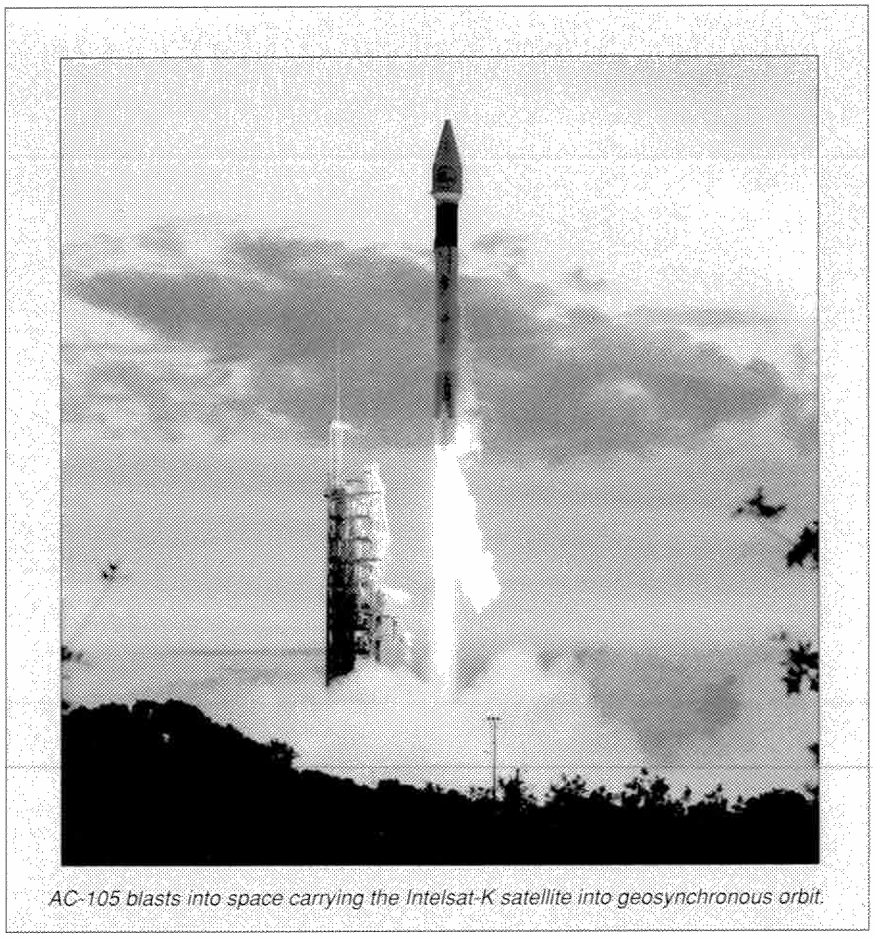
ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION
June 26, 1992



AC-105 blasts into space carrying the Intelsat-K satellite into geosynchronous orbit.

AC-105 Boosts Intelsat-K Satellite Into Space

Launch Marks 30th Anniversary of First Centaur Flight and 35th Anniversary of First Atlas Flight

Atlas/Centaur 105, the first Atlas IIA, was successfully launched at 5:00 p.m. PST on June 9, sending an Intelsat-K international broadcast satellite into orbit. Once it becomes operational, this satellite will provide trans-Atlantic video and business services for international broadcasters. It is expected to be operational in time for the Summer Olympics in Barcelona, Spain.

"Today's success reflects the strong reliability of Atlas and our confidence that space launch systems will be an increasingly significant contributor to the corporation in the future," Jim Mellor, General Dynamics' president and chief operating officer, said.

This launch marked a significant historical point in Atlas and Centaur heritage. The 35th anniversary of the first Atlas flight is celebrated this month, while

Please see **Atlas IIA Launch** *on page two*

Atlas Launch Viewing at the Cape – A Family Affair

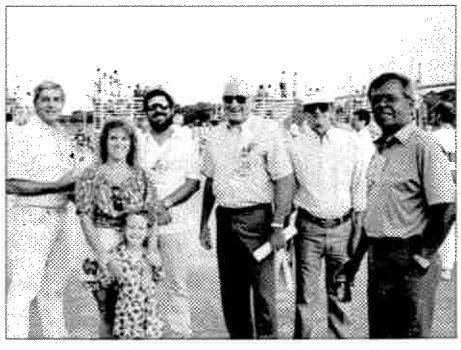
By Michelle McIntire

As dusk settled over Space Launch Complex 36B on June 9, 1992, GDSS Cape employees and their families gathered at Hangar F to observe the launch of AC-105/Intelsat-K. Hangar F, located three miles west of SLC-36, provides a clear view of the Atlas poised on the pad and is the closest point from which personnel are permitted to view the launch. Employees were provided passes that allowed their families to drive their personal vehicles to the launch viewing site located on Cape Canaveral Air Force Station (CCAFS).

An estimated 500 employees and guests packed the viewing stands with cameras in hand, anxiously awaiting the liftoff of the first Atlas IIA. This new vehicle is the third of four improved Atlas/Centaur launch vehicles incorporating increased performance and upgraded avionics.

A large blue and white sign in front of the viewing stands cheered the Atlas Launch Team with "GO ATLAS – GO CENTAUR

Please see **CCAFS Launch Viewing** *on back page*



GDSS/CCAFS employees gather, awaiting the launch of AC-105/Intelsat-K at the Hangar F launch viewing site. Pictured above, left to right: Larry Snow, chief – Finance; Trina Scott, Program Control analyst, and her daughter, Candace; Steve Mosley, machinist and IAM Union steward; Jack Dean, Site Support manager; Joe Littlefield, financial specialist, Sr.; and Digger Ljungquist, GDSS retiree.

Atlas IIA Launch

Continued from front page

Centaur reached its 30th anniversary in May. On June 11, 1957, Atlas 4A was launched from Complex 14, and on May 8, 1962, Centaur F-1 was mated with Atlas 104D and launched from Complex 36.

"This first launch of an Atlas IIA is another significant confirmation of the proven reliability of our Atlas family of launch vehicles," Mike Wynne, division vice president and general manager, said. "Today's launch will serve to reinforce the confidence of our commercial and military customers. It is equally important because it reestablishes a long and successful relationship between General Dynamics and the Intelsat organization."

"Our launch team's performance and quality-minded attitude assures us many more successful launches like AC-105."
– Chris Bielous, Atlas Propulsion Launch Support mechanic

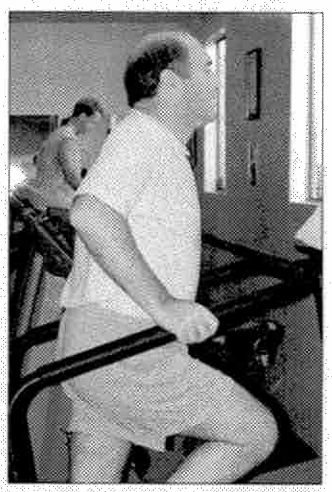
"This success is a fitting reward for a very challenging launch campaign."
– Ed Christiansen, Atlas Program Engineering chief

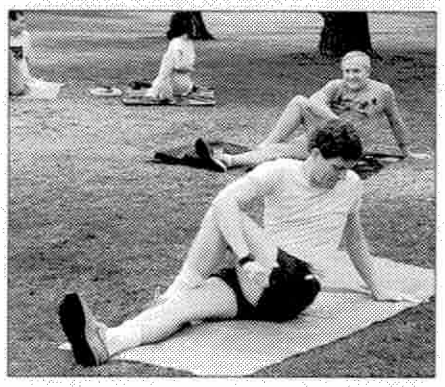
The AC-105 launch represents the first time GDSS has launched five vehicles within six months in almost 15 years. It also was the fifth commercial launch for General Dynamics and the Atlas family of launch vehicles. GDSS has commitments for 26 commercial launches through the 1990s and ten launches of military communications satellites on the Atlas launch vehicle.

At the Cape, employees celebrated this historic launch (see related story on front page). "This is a significant milestone for the entire GDSS team!" Frank Watkins, director of CCAFS Base Operations, said after the launch. "Every team member can take pride in the successful launch of the first Atlas IIA, AC-105. Your outstanding efforts will ensure continuing launch success for the rest of 1992. Congratulations!!"

Employees in San Diego were also jubilant. "We should all be proud that we have now launched three out of the four configurations (of Atlas launch vehicle family)," Jim Craycraft of Facility Services said. "Only one more to go!"

Employees Make Fitness a Way of Life





Clockwise, starting from top left: *Members of an afternoon aerobics class work up a sweat in the CRA auditorium. Marty Winkler gets his workout on the "Lifestep" machine. Sam Packer, front, and Pat Stewart, in background, stretch before their workouts as part of the Shape-Up program.*

"Being Fit" is a catch-phrase heard more and more as people realize that they will lead healthier and longer lives if they get in and remain in shape.

This is especially true around General Dynamics, where employees at all levels focus on fitness during their non-working hours. In fact, the Convair Recreation Association offers many opportunities to employees for improving their fitness levels.

Many reasons are given by exercisers for why they workout everyday. Many exercise because it makes them feel better, reduces stress, and contributes to weight loss.

"I try to exercise two to three times a week," Marty Winkler, division vice president and deputy general manager, said recently. "If I don't, I can really tell a difference. I feel better when I'm on a regular exercise program."

Marty takes advantage of the CRA's Health Fitness Center (HFC), where he stretches and works on the "Lifestep" machine, which simulates walking up stairs as a form of exercise.

The HFC is staffed by five fitness professionals who are assisted by four to five interns. Open from 6 a.m. to 8 p.m., the HFC offers General Dynamics employees and their families a variety of programs that encourage healthy lifestyle choices. Some of the options available include weights for weight training, aerobics classes for all levels, and Shape-Up, a comprehensive fitness class that meets three times a week.

"Many people who participate in the Shape-Up class want to get into shape and feel better about themselves," Sally Sowers, a HFC fitness professional and leader of the Shape-Up program, said. "It's a great group because everyone is supportive and provides encouragement."

The next Shape-Up class is scheduled to begin the week of July 6, Sally added. To register for this course, contact the CRA-HFC at 39921 (Kearny Mesa) or 24736 (Lindbergh Field).

The CRA also provides club activities that focus on fitness. Many employees take advantage of these clubs as a way to get exercise. Some of the clubs available include tennis, volleyball, softball, basketball, and soccer. The CRA also sponsors fun runs each year.

If you are interested in any of these activities, please contact the CRA at 39918.

Being in shape affects the human body in many ways. It can decrease the resting heart rate, reduce blood pressure, change body composition, and increase flexibility and endurance. Looking around GD, there are a number of people who are making fitness a way of life.

6/26/92

Support the Silent/Live Auction, June 26

Let's Lick Leukemia

By Karin Dinan

"He just loves trucks," Lou Palmer of CSC Western Center said. "Just like any other boy, if you want to keep him happy, give him a truck to play with." Unfortunately, Michael, Jr., Lou and Carol Palmer's grandchild, is faced with more than most children. Michael, Jr. has acute lymphocytic, a type of leukemia. Leukemia is a disease of the blood-forming tissues and its exact cause remains unknown.

General Dynamics and CSC Western Center are hosting a silent/live auction to benefit the Leukemia Society tonight, June 26, from 6 to 10 p.m. at the Town and Country Hotel in Mission Valley.

"When Michael first became sick, all I knew about leukemia was that kids get it," Lou said. Michael, whose family lives in Las Vegas, was born in June 1989 and became sick during December of 1990 in San Diego while visiting Lou and Carol, a Space Systems employee, over the holidays. "He had a really bad cold," Lou said, "and was weak for several weeks."

Shortly after the holidays, Michael was becoming weaker and could no longer walk. Phyliss, Michael's mother, decided it was time to take Michael to the children's hospital in Las Vegas. When Michael arrived at the hospital, his color was yellowish and when the doctors drew blood, they found a pink liquid. "They said that we were very lucky to get him to the hospital for testing in time."

After a great deal of education by the doctors, the Palmers found out that acute lymphocytic has the highest cure rate – 85 percent. "The doctor said the next three and a half years would be crucial," Lou said. "But he guaranteed that Michael would go into remission." Michael has now been remission for six months. "He will continue chemotherapy for the next three years and we will hope that it doesn't go into his spleen or nervous system. Michael realizes he has to go to the hospital occasionally, but, other than that, he is just your average, active kid."

It is predicted that leukemia research in the 1990s will isolate the cause and lead to a cure. Much of leukemia research has helped to bring about major advances in the treatment of lymphoma, Hodgkin's disease, and multiple myeloma. The Leukemia Society of America is dedicated to finding the causes and cures of leukemia and its related diseases. "The support groups that my son's family belongs to are vital," said Lou. "They get to meet other children and parents who are facing similar dilemmas."

The San Diego chapter of the Society supports five major programs: research, patient aid, public and professional education, and community service. Last year, $128,000 was raised locally through the TELEVENT, which is slated for August 8 this year. Almost $1.4 million was designated to leukemia research for six research projects in San Diego County.

"The kids still need us in these tough economic times," Lou said. "Come out and support the Leukemia Society in a fun-filled evening at the auction." Tickets are available for $10 from department coordinators or at the door at the event.

ITEMS UP FOR AUCTION: Del Mar Day at the Races • Seiko Watch • Evening at *Phantom of the Opera* • Week in Hawaii • Ride on the B-24 Liberator • All-Star Baseball Game Tickets • Rainbow 100 & Macintosh Personal Computers • Citromatic Juicer • Skeet Shooting • Bike Tuneup • Acupuncture Treatments • Yashica AF 35mm Camera • Dinners for two • GE Cassette Clock Radio • Play Tickets to the Old Globe, San Diego Repertory Theatre, La Jolla Playhouse • Weekend Hotel Stays for two • Carpet Cleaning • Harbor Excursion Tours • Glamour Photos • Dog Grooming Service • Eyeglasses & Eye Exams • Golf Trips • Sky Sailing • 42" Ceiling Fan • Limo Ride • Shopping Sprees • And Much More!

Bond Drive To Be Held in July

The annual United States Savings Bond Campaign will begin July 7 and continue through July 17. Carey Riley, division vice president – Business Development, and John Thacker, division vice president – Quality Assurance, co-chair this event. As in the past, Bond Drive coordinators from all departments will be soliciting participation in the Savings Bond program.

Series EE Savings Bonds are an excellent investment because they earn market-based interest rates and have significant tax advantages. Savings Bonds are also a great way to help America – funds raised through Savings Bonds help finance essential programs including defense and the National Space Program.

In addition to being a great investment, prizes will be awarded daily during this nine-day campaign. All employees who enroll, whether they are newcomers to the plan or veterans, will be eligible for the prizes.

Inside Space ...

In response to employee requests, newspapers can now be recycled through the GDSS office paper recycling program. Employees who want to recycle their newspapers at work can do so by placing the papers in the colored paper recycle bins located in their work areas...

Business Communications now has a shared file on EM/OS that provides information on the variety of services provided by the department, including signs, memo pads, business cards, proposals, brochures, etc. To access this information, type in [SS_BUS_COMM] in the index menu. The group functions described include Proposal Development, Graphic Communications, *The Orbiteer*, Marketing Communications, and Electronic Publishing Communications...

The CRA Players will soon be presenting their first musical. Opening July 10 and running throughout the month, "Something's Afoot" promises fun for all. This musical murder/mystery spoof of Agatha Christie plays stars several Space Systems employees. Tickets are $6 in advance, $7 at the door, with special rates available for groups of 10 or more. Get your advance tickets from the CRA Emporium, any CRA Players member, or contact Monica Van Der Werf at 41820.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending June 12, 1992)

Cape Canaveral	562
GD Space Services	65
Hammond	102
Harlingen	269
San Diego	2,952
Vandenberg	243
Other Offsite Locations	57
TOTAL	**4,250**

Division Represented at National FOD Conference

Dave Chizlett, Production Foreign Object Damage and Elimination (FOD/FOE) administrator for GDSS, attended the 13th National Aerospace FOD Conference May 5 – 7.

While at the conference, Dave made a joint presentation with Thomas Kmiec, a project engineer for RL10 production at Pratt & Whitney. Their presentation, "FOD in a Space Program," addressed the issues surrounding the failure of the AC-70 launch and what has been done to eliminate FOD since then.

"It was a very successful conference," Dave said recently. "We were able to gather a lot of useful information for application at GDSS in our continuing activities aimed at eliminating foreign objects from our products."

This FOD conference was established to provide a forum for an exchange of ideas and information between individuals and companies concerned about FOD and FOE. The conference was videotaped for inclusion in future division foreign object damage and elimination videos.

Retirees

Thanks & good luck to these GDSS employees who recently retired:

James M. Nelson
Engineering Specialist ..... 16 years

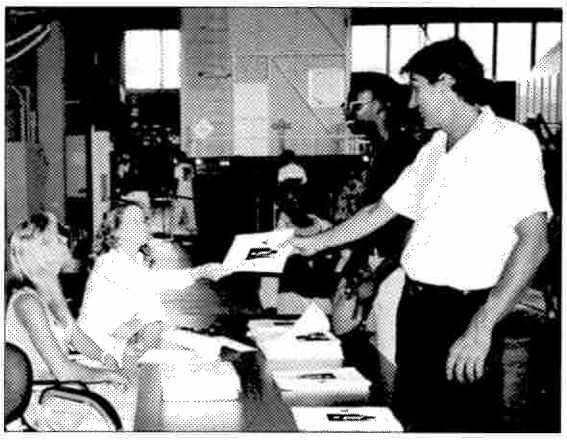
Albert B. Yanke
Project Engineer, Sr. ..... 36 years

CCAFS Launch Viewing

Continued from front page

–GO INTELSAT-K"! Guests listened to the final countdown including general commentary broadcasted over the PA system. Volunteers were recruited from the GDSS Cape workforce to distribute the AC-105 mission profiles and provided general information to the guests. Many employees and their families sported the Intelsat logo T-shirts purchased from the GDSS/CCAFS Company Store.

Viewing site guests patiently waited during a 48-minute hold at the opening of the 7:12 p.m. (EST) launch window for surrounding area rain storms to clear. At T-minus zero (8:00 p.m. EST), the Atlas rocket engines ignited with the bird hesitating on the pad a longer period of time than prior launches had, due to the extra thrust required for lifting a heavier payload (300 additional pounds). The guests clapped and cheered as they watched the rocket soar away from the pad, disappearing for a second through some cloud cover above, making its way to deliver the Intelsat-K satellite to the proper orbit in space.



GDSS/CCAFS employees and launch viewing site volunteers, Rhonda House, a Facilities engineer, and Tina Brisson, a management clerk, hand out AC-105 mission profiles to GDSS employees, such as Kevin Jackson, a Material Support analyst, and other viewing guests.

Once the rocket was out of sight to the naked eye, the guests listened intently to hear the mark events leading up the 29-minute Intelsat-K spacecraft separation. Directly following the Atlas/Centaur separation, a new key flight event, extendible nozzle deployment from the Centaur IIA engines, occurred. This new feature increased the thrust power of the Centaur IIA engines. The eagerly awaited moment at the launch viewing site occurred at T-minus 29 minutes into flight – the ARIA aircraft reported successful deployment of the satellite launched by GDSS.

An indoor/outdoor postlaunch celebration began approximately 15 minutes later at a local restaurant, where Cape employees and their families, San Diego employees, and Intelsat guests enjoyed a variety of finger foods, cold drinks, and draft beer.

Frank Watkins, director of CCAFS Base Operations, congratulated and thanked the employees for their latest successful launch. Marty Winkler, division vice president and deputy general manager, initiated the ceremonial burning of the AC-105 Launch Contingency Failure Plan, which was proudly ignited by Ben Wier, division vice president and program director – Atlas Programs. Charlie Lloyd, vice president and managing director of GD Commercial Launch Services, and Fred Ormsby, Intelsat manager – Launch Vehicle Program Office, respectively exchanged Atlas/Centaur and Intelsat-K satellite models.

Less than four hours after liftoff, employees were already discussing plans for the next Atlas launch. The evening came to a close with Cape and San Diego employees together celebrating teamwork at the Cape. Once again, this success story for GDSS, in which dedicated employees delivered a successful launch service for a commercial customer, shows the continued dedication and excellence necessary to successfully complete the busiest launch year ever at CCAFS.

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

July 24, 1992

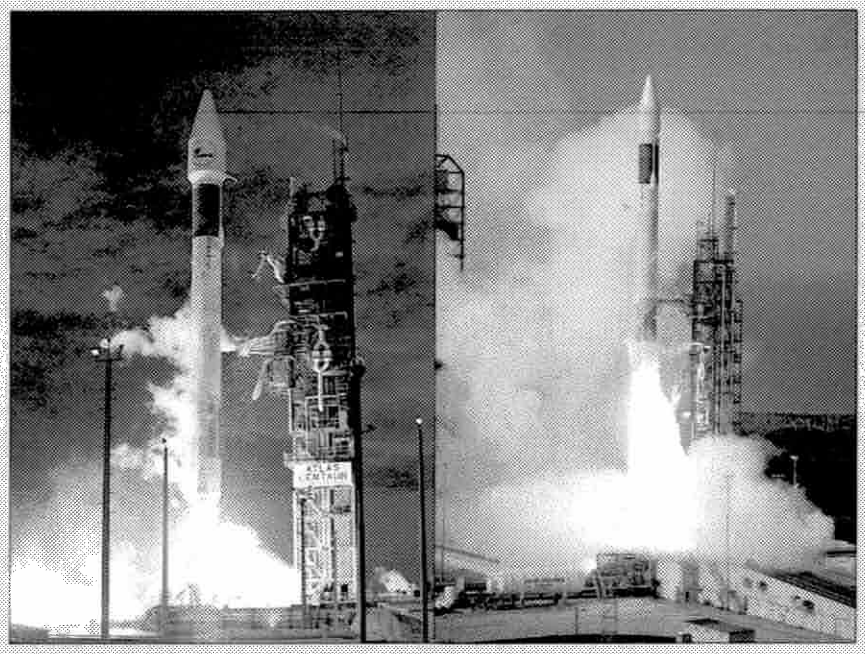
Space Systems Division 1992 Performance Goals: *2nd Quarter Status*

Information provided by Division Planning

As the first half of 1992 comes to a close, the division has made significant progress toward achieving the 1992 performance goals established in January, as part of the new Sales and Operations Planning Process *(described in April 3 issue of the Orbiteer).*

The division's launch record this year, as well as continued launch success, is the single most critical factor in achieving the division's 1992 goals. With the flights of AC-105/Intelsat-K – the first Atlas IIA launch – and AC-103/MLV II number two in the second quarter, we are now half-way to our 1992 goal with four successful launches.

To put this in perspective, Space Systems Division has launched six Atlas vehicles (Atlas 53-E, Eutelsat, MLV #1, Galaxy 5R, Intelsat-K, and MLV II #2) in just over seven months, utilizing four different vehicle configurations (Atlas E, Atlas I, Atlas II, Atlas IIA) flying off of three different pads at two different launch sites. Very few of our competitors could ever make such a claim!



These two second quarter launches take us half way to our 1992 launch goal of eight launches: AC-105/Intelsat-K (left) and AC-103/DSCS III.

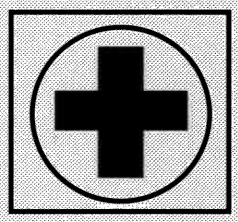
Our remaining four launches in 1992 include: the first UHF (Atlas I), Galaxy I-R (Atlas I), and the third and fourth MLV IIs (both on Atlas II), with Galaxy I-R planned for flight in August.

New launch commitments increased to five in the second quarter with the U.S. Navy

Please see **Division Performance Goals** *on third page*

Earthquake Preparedness:

The Smart Thing To Do



The definition of *earth* is the solid footing formed of soil, and *quake* is to shake or vibrate. Two simple and non-threatening definitions. But put them together, ***earthquake***, and there may be a lot of panic.

An earthquake is the sudden shaking of the earth caused by slippage of part of the earth's crust. This slippage causes vibrations that shake buildings, furniture, and even people. Since earthquakes are unpredictable it is a good idea to be prepared and know the rules of safety to use during and after one strikes.

Duck and *cover* are the two key words to remember during an earthquake...

"The main thing to do is to remain calm," Bill DeGarmo, Space Systems Division's Safety manager, says. "Take cover immediately in a doorway, in a bathroom area where there's lots of wall area for support, or under substantial furniture. Don't attempt to move, just duck in place and cover."

Duck and cover are the two key words to remember during a quake. Do not panic and do not run. If you are under a desk or other piece of sturdy furniture, hold on to it and

Please see **Earthquake** *on back page*

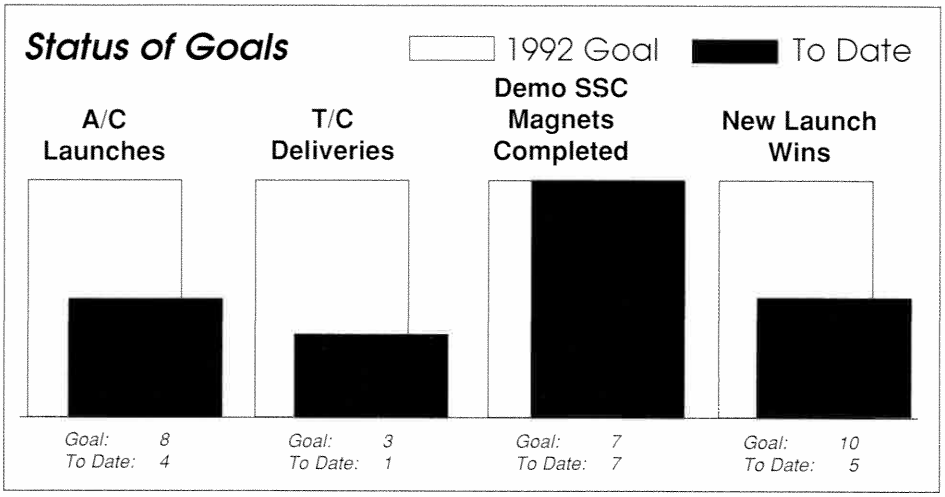
Division Performance Goals

Continued from front page

exercising an option to launch the fourth EHF in late 1994. With up to 13 additional launch decisions anticipated by year-end, it appears that achieving our goal of 10 commitments is likely.

Titan/Centaur tendered and signed the Interim Certificate of Completion (ICOC) on TC-11 to Martin Marietta Corporation on June 16. This is our first Titan/Centaur delivery in 1992, with a goal of two more deliveries by year-end.

The seventh and final Superconducting Super Collider demonstration magnet was completed by Space Systems and was tested and accepted by Fermi National Accelerator Laboratories in April. The completion of these demonstration magnets was a significant accomplishment and has paved the way for full-scale magnet production at our Hammond, LA, facility. Although Hammond facility transition remains on schedule, working to keep the SSC program budget intact has become a top priority within the division, given the recent Congressional funding decisions



(see related article on second page).

Through the month of June, the division has met or exceeded many of the 1992 financial and functional targets. We have been awarded $5.9 million in CRAD funding thus far this year; the Safety department continues to report total recordable injury and illness incidence rates well below the 1992 goal of 4.6; and maintaining an effective system of internal management controls remains a priority.

To date, the division has had a very good year thanks to the dedicated efforts of each and every employee. With continued performance of this caliber Space Systems Division can truly become the Best in All of Space.

Space Systems Inventors

These employees have been credited with the following inventions. Patents have either been applied for or awarded to them by the U.S. Patent Office.

Mickey Cornwall and **Ted Stern** of the Space Power Systems group had a patent issued entitled "Modular Distributed Concentrating Collector Using Power Bus to Route Power to Centralized Converter." This invention improves current devices used to collect solar energy by directing collected solar radiation through a power bus to a converter for conversion into electricity.

Novel features of the invention include the use of a low-loss power bus to route the solar radiation to a central converter, the use of multiple small collecting dishes, and the ability to fold and stow the assembly for ease of transport into space.

Mickey and Ted received patent award checks for their invention.

Tuition Reimbursement

Section 127 Tax Exemption Expires

The Section 127 tax exemption for tuition reimbursement expired on June 30, 1992. This expiration means all tuition reimbursement payments may be subject to taxation. The following are the guidelines established by the Internal Revenue Service (IRS) that the Human Resources department uses when determining whether courses will be taxed or non-taxed:

Taxable Courses:

- All courses applied toward an undergraduate degree (AA/AS, BA/BS)
- Professional development courses not directly job-related
- Graduate courses not directly job-related
- Review courses for professional Engineering Exam, Graduate Management Aptitude Test (GMAT), and Graduate Record Examination (GRE)

Tuition reimbursements are *taxable* if they are for courses that are: a) not related to an employee's present job, trade, or business; or b) part of a program of study that will qualify an employee for a new job, trade, or business.

Non-taxable Courses:

- Professional development courses directly job-related
- Graduate courses directly job-related

Tuition reimbursements are *non-taxable* if they are for courses that maintain or improve those skills required for or used in the employee's present position or trade, and are courses that will not be applied to an undergraduate degree.

If you have any questions regarding the expiration of the Section 127 tax exemption, call Teresa Cabading at 44590.

6/24/92

House Votes to Terminate SSC Funding, Employees Urged to Write Congressmen/Senators

The U.S. House of Representatives recently voted to terminate the Superconducting Super Collider program, an integral part of the division's Energy business. The U.S. Senate will soon be voting on this issue.

In order to show support of the SSC program, Mike Wynne, vice president and general manager, is encouraging all employees to write letters to senators and congressmen.

"The SSC is important not only to General Dynamics but is vital to the continued leadership of the United States in basic high-energy physics research and in emerging technology areas such as superconductivity," he wrote in a recent memo to all employees.

Employees interested in writing in support of the SSC program should write these letters on their own time and on their own stationery in order to comply with business ethics standards.

Any letters should be written as soon as possible, as the Senate is expected to address this issue with a floor vote scheduled August 4.

Division contact for the letter writing activity is David Madura of Energy Programs. If you have any questions related to this project, he can be reached at 77414.

To the right is a list of Representatives and Senators for the various Space Systems Division sites.

HOUSE OF REPRESENTATIVES (Washington, D.C. 20515)

Alabama (Huntsville)	
Congressman Robert E. Cramer, Jr. (D-5th)	1431 Longworth House Office Bldg
California (Los Angeles)	
Congressman Mel Levine (D-27th)	2443 Rayburn House Office Bldg
Congresswoman Dana Rohrabacker (R-42nd)	1039 Longworth House Office Bldg
(San Diego)	
Congressman Bill Lowery (R-41st)	2433 Rayburn House Office Bldg
Congressman Ron Packard (R-43rd)	434 Cannon House Office Bldg
Congressman Randy Cunningham (R-44th)	1017 Longworth House Office Bldg
Congressman Duncan Hunter (R-45th)	133 Cannon House Office Bldg
(Vandenberg)	
Congressman William M. Thomas (R-20th)	2402 Rayburn House Office Bldg
Congressman Leon E. Panetta (D-16th)	339 Cannon House Office Bldg
Colorado (Colorado Springs)	
Joel Hefley (R-5th)	222 Cannon House Office Bldg
Florida (CCAFS)	
Congressman Jim Bacchus (D-11th)	431 Cannon House Office Bldg
Louisiana (Hammond)	
Congressman Bob Livingston (R-1st)	2368 Rayburn House Office Bldg
New Mexico (Albuquerque)	
Steven Schiff (R-1st)	1427 Longworth House Office Bldg
Texas (Harlingen)	
Congressman Solomon P. Ortiz (D-27th)	2445 Rayburn House Office Bldg
(Houston)	
Graig A. Washington (D-18th)	1711 Longworth House Office Bldg
Virginia	
Congressman Frank R. Wolf (R-10th)	104 Cannon House Office Bldg

SENATORS

Alabama	
The Honorable Howell Heflin	United States Senate, Washington, D.C. 20510-0101
The Honorable Richard C. Shelby	United States Senate, Washington, D.C. 20510-0103
California	
The Honorable Alan Cranston	United States Senate, Washington, D.C. 20510-0501
The Honorable John Seymour	United States Senate, Washington, D.C. 20510-0503
Florida	
The Honorable Bob Graham	United States Senate, Washington, D.C. 20510-0903
The Honorable Connie Mack	United States Senate, Washington, D.C. 20510-0904
Louisiana	
The Honorable J. Bennett Johnston	United States Senate, Washington, D.C. 20510-1802
The Honorable John B. Breaux	United States Senate, Washington, D.C. 20510-1803
New Mexico	
The Honorable Pete V. Domenici	United States Senate, Washington, D.C. 20510-3101
The Honorable Jeff Bingaman	United States Senate, Washington, D.C. 20510-3102
Texas	
The Honorable Lloyd Bentsen	United States Senate, Washington, D.C. 20510-4301
The Honorable Phil Gramm	United States Senate, Washington, D.C. 20510-4202
Virginia	
The Honorable John William Warner	United States Senate, Washington, D.C. 20510-4601
The Honorable Charles S. Robb	United States Senate, Washington, D.C. 20510-4603

Promotions

Congratulations to the following individuals who received promotions during May and June 1992.

Terry Banderas
David Baxter, Jr.
Shirley Clark
Richard Decker
Robert Diehl
Michael Flannigan
Jimmie Fletcher
James Graham
Harold Hahn, Jr.
Keneth Hebert
Sonia Hopkins
Patrick Houle
Laura Hoylen
Marlon Jackson
Curtis Johnson
Henry Johnson III
Robert Kennie
David Lile
Elizabeth Littlefield
David Martz
Michelle McIntire
Jennifer McCoy
Joyce Miller
Lee Patterson
Kathleen Poindexter
Linda Pruett
Barbara Rex
Mark Sengul
Richard Shertzer
Billy Thomas
Carol Troha
Richard Webb

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending July 10, 1992)

Cape Canaveral	560
GD Space Services	65
Hammond	109
Harlingen	269
San Diego	2,924
Vandenberg	224
Other Offsite Locations	51
TOTAL	**4,202**

Evening Training Classes Offered by CSC

The following evening computer classes are presently offered to GDSS employees by Computer Sciences Corporation (CSC). If you are interested in any of these classes, please contact your training coordinator or 33930 for more information.

Excel Worksheets
Aug. 3, 5, 10, 12
4:45 - 7:45 p.m.

Intro to Macintosh
Aug. 11, 13, 18
4:45 - 7:45 p.m.

Microsoft Word Basics
August 19, 20, 26, 27
4:45 - 7:45 p.m.

Macintosh Usage and Applications
Aug. 22, 29
8 - 5 p.m.

Earthquake

Continued from front page

move with it. Stay there until after the ground stops shaking and it is safe to move.

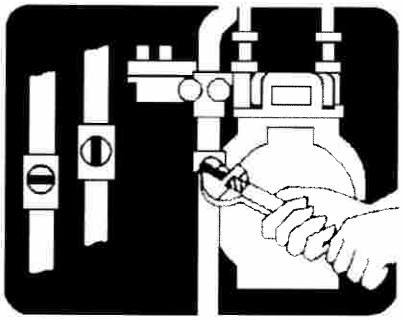
Don't rush for exits or go down stairs as there may be structural damage. If you are in an elevator, get off on the nearest floor and stay there. Don't rush outside, as there may be danger of falling glass and debris.

If you are outside when an earthquake begins, get into the open, away from buildings, power lines, trees, and anything else that might fall.

If you are driving, stop if it is safe and remain in the car. Do not stop under trees, power lines, buildings, light posts, bridges, overpasses, or tunnels.

After an earthquake, check for injuries. Do not use the telephone except for emergency calls. Listen to a battery-operated radio (if outside, your car is a good source) for information on local radio broadcasts.

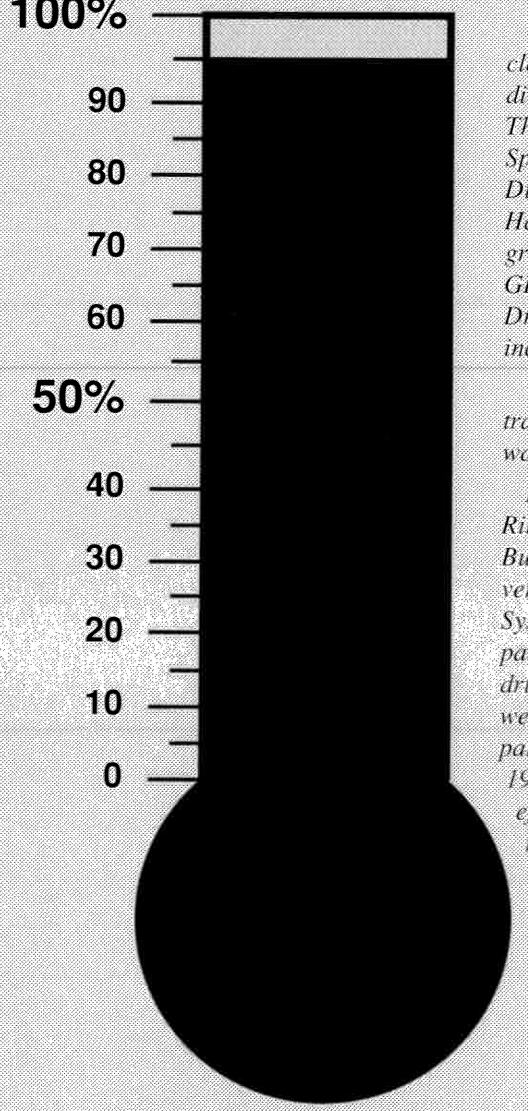
If you are at home and you notice structural damage or you smell or hear leaking gas, shut off your gas supply. *(see diagram below.)* Use a crescent or pipe wrench and give the main shut-off valve a quarter turn. *Do not turn the gas on again*. Contact the gas company and let them do it.



If the valve is running crosswise across the pipe, the gas line is closed. ***Do not turn the gas on again -- let the gas company do it.***
(Art © Pacific Bell 1992)

If people follow the basic rules – a) stay calm, and b) duck and cover – there will be fewer emergencies during and following an earthquake. For additional information on earthquake preparedness, refer to the earthquake information section in the front of the local telephone directory white pages, pages B-9 through B-12.

GDSS 1992 Bond Drive A Success



The 1992 Savings Bond Drive closed July 17 with a 95 percent divisionwide participation rate. Thanks and congratulations to all of Space Systems Division – San Diego, CCAFS, VAFB, Hammond, Harlingen, and the Space Services group. Your participation pushed GDSS over the 94 percent Bond Drive level of 1991. Prize winners included employees at all locations.

The Grand Prize winner of the transportable cellular telephone was Design drafter ***Ralph T. Goin.***

Bond Drive Chairman Carey Riley, division vice president – Business Development, says, "I am very pleased and proud of the Space Systems Division team's participation in this years bond drive. Through everyone's efforts, we have reached a 95 percent participation level for the division in 1992. This represents a marvelous effort and show of support for raising government revenues which fund 85 percent of our division's programs. Congratulations and thank you to everyone."

95% Participation Divisionwide

ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

August 7, 1992

Just-In-Time Production Processing Procedures To Be Implemented at GDSS

There are several "buzz words" floating around the division now relating to continuous process improvements for making GDSS a world-class competitor and the Best in All of Space.

Total Quality Management, Manufacturing Resource Planning II, and Concurrent Engineering are a selection of these current production-oriented phrases. As well as these, a new process called Just-In-Time is presently being worked to improve our division's competitiveness.

Technically, Just-In-Time (JIT) is the consolidation and leveraging of purchase requirements resulting from entering into long-term supplier partnerships characterized by delivery of Foreign Object Damage-free, quality goods and/or services directly to the point of use.

Simply, JIT involves a supplier delivering goods or services directly to users when they need them, avoiding shortages.

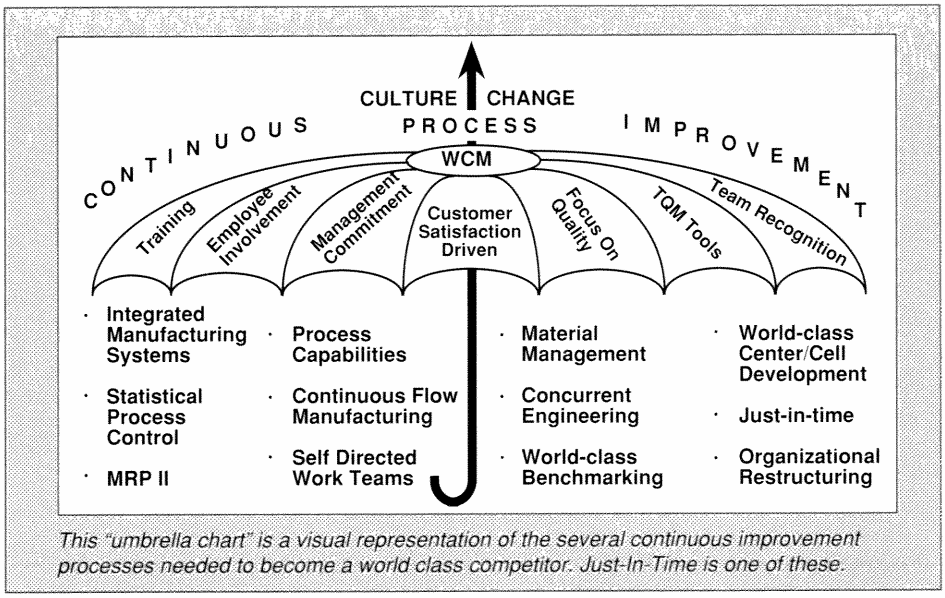
"World class" benefits to becoming a Just-In-Time organization include:

- Reducing leadtime
- Reducing administrative costs
- Reducing inventory investment and management
- Altering the role of receiving inspection

According to Mike Wynne, GDSS general manager, "The competitive nature of our world market forces us to seek better and better ways to work in all aspects of our business, from the placement of the first order to the delivery of the rocket."

In JIT, a partnership is established between GDSS and a designated supplier.

Please see **Just-In-Time Processes** *on back page*



This "umbrella chart" is a visual representation of the several continuous improvement processes needed to become a world class competitor. Just-In-Time is one of these.

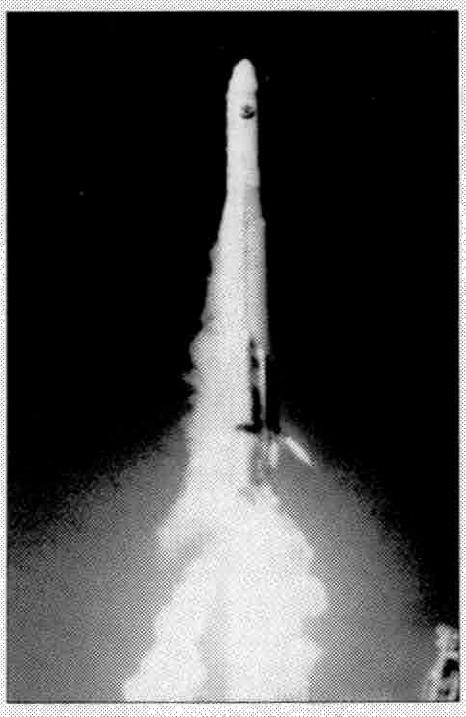
GDSS/VAFB Recognized with NASA Award

General Dynamics Space Systems Division at Vandenberg Air Force Base has been awarded the 1992 NASA Group Achievement Award from the National Aeronautics and Space Administration Headquarters in Washington, D.C.

This award was given to the General Dynamics Atlas E Launch Team "in recognition of the dedication of the Metsat Project team in the exemplary launch of NOAA-D."

Chuck Harter, Base director for the General Dynamics VAFB operation, was extremely honored and commented that this award reflects on the many outstanding individuals making up the impressive Atlas E team.

Congratulations to all of the VAFB employees who participated in launching the NOAA-D satellite on May 14, 1991, which represented the 21st consecutive successful Atlas launch from Vandenberg.

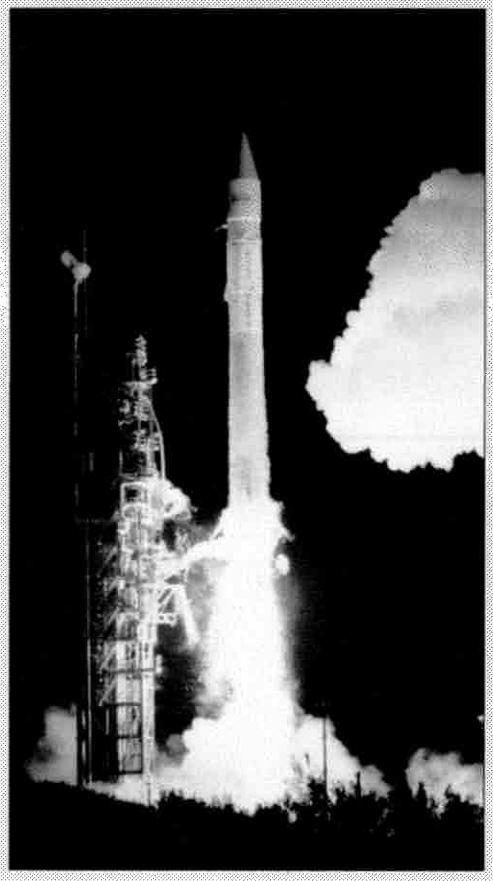


An Atlas E lifted the NOAA-D satellite into space on May 14, 1991.

Galaxy Launch Mark Events Schedule

Many employees are not aware of the important events that are marked during an Atlas I launch. The marks are watched to ensure a successful launch and placement of our customer's spacecraft. For your information, the *Orbiteer* has reprinted below the mark events for the AC-71/Galaxy I-R launch scheduled for late August. *GO ATLAS – GO CENTAUR!*

Mark Number	Mark Event	Time (min:sec)
0	Liftoff	0:00
1	Atlas Booster Engine Cutoff (BECO)	2:34
2	Atlas Booster Section Jettison	2:37
3	Insulation Panels Jettison	2:59
4	Payload Fairing Jettison	3:32
5	Atlas Sustainer Engine Cutoff (SECO)	4:34
6	Atlas/Centaur Separation	4:36
7	Centaur Main Engine Start (MES 1)	4:47
8	Centaur Main Engine Cutoff (MECO 1)	10:10
	Coast	
9	Centaur Main Engine Start (MES 2)	25:48
10	Centaur Main Engine Cutoff (MECO 2)	27:14
11	Galaxy Spacecraft Separation	29:40



Hughes' Galaxy V satellite was boosted into space by AC-72 on March 13, 1992.

"Space Crafts" Craft Club To Start at CRA

The organizers of a new arts and crafts club called "Space Crafts" will be holding their first meeting at 5 p.m. on August 10 in the Convair Recreation Association Clubhouse Room B.

This club is open to all who do crafts and all who want to learn. Anyone interested is urged to attend this meeting, which will cover the guidelines, goals, and objectives of the club.

For further information, please contact Susan Shanaberger at 44295.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending July 24, 1992)

Cape Canaveral	560
GD Space Services	65
Hammond	113
Harlingen	269
San Diego	2,920
Vandenberg	220
Other Offsite Locations	52
TOTAL	**4,199**

Used Syringe Disposal Causes Concern

Several incidents of improperly disposed syringes in rest rooms at Kearny Mesa and Century Park have been reported recently.

On May 8, the Human Resources department published a bulletin discussing the proper methods of discarding used syringes. These syringes are used by employees who take medication by injection. Since this bulletin was distributed, there have still been problems with employees disposing of used syringes improperly.

The concern of the Safety and Health department is the prevention of puncture wounds to anyone who may push paper towels into the trash bin, to curious employees who may pick up used syringes to examine them, or to custodial employees who maintain the cleanliness of the rest rooms.

The division's goal is to prevent needle sticks from trash disposal that may contain an uncapped or improperly recapped syringe. The following are the proper methods of discarding syringes:

- Make use of personal SHARPS containers in which used syringes can be safely taken home for disposal
- Bring used syringes to Medical for disposal in the SHARPS container located there (KM Building 1, first floor, column B-5)
- Take your used syringes to the Safety and Health department for proper disposal in the SHARPS container located in that office (KM Building 24, first floor, column 156-E)

If you have any suggestions in relation to this disposal program, or if you see a need for additional SHARPS containers, please contact the Safety and Health department at 43555.

8/7/92

Phone Scams: GDSS Employees Receive Bogus Financial Planning Seminar Calls

Many employees have been receiving phone calls recently from local financial planning firms offering General Dynamics retirement seminars. Although their promotional material may imply a relationship between the corporation and the seminar promoters, no such affiliation exists.

According to Fran Richardson, GDSS Ethics director, "General Dynamics does not endorse the investment products and services these organizations sell and finds such advertising practices questionable."

Fran recommends that employees exercise caution in providing personal information about themselves or coworkers should they receive unsolicited calls from such firms.

GD Offers Bona Fide Financial Planning Seminar

The Employee Benefits department of General Dynamics will be sponsoring a financial planning workshop at 5 p.m. on August 10 and August 18 in the KM Building 24 Conference Center. Admission is free and reservations are required. Interested employees may call toll-free 1-800-842-6579 for reservations. Spouses are welcome to attend.

Retirees

Thanks & good luck to these GDSS employees who recently retired:

Robert F. Bouchie
Group Leader – LGMA ..... 16 years

Patrick B. Cornelius
Engineering Specialist ..... 13 years

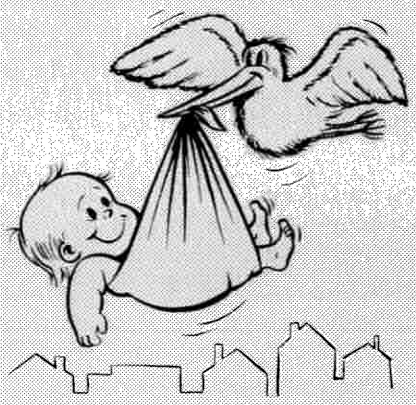
Dale A. Davidson
Engineering Chief ..... 35 years

Ronald R. Reekers
Group Leader – IAM ..... 33 years

John V. Rens
Engineering Specialist Sr. ..... 5 years

A Healthier Future for Employees' Babies

Maternity Fraternity Offers Prenatal Care and Counseling



The hope of every expectant mother is the birth of a healthy baby. Unfortunately for many pregnant women, this dream does not come true because they did not receive the necessary information to increase the likelihood of a strong, healthy child.

The Space Systems Division's Human Resources department in San Diego is seeking to avert that tragic situation through a club called Maternity Fraternity. The goal of the Maternity Fraternity club is to encourage pregnant employees to seek early prenatal care and learn about having a healthy baby.

Therefore, pregnant employees are eligible to join this club during the first three months of pregnancy (first trimester). Since the club's inception in August 1991, 14 "new mom" employees have graduated from the Maternity Fraternity club and have received a free gift.

In conjunction with the San Diego County Chapter of the March of Dimes, the Maternity Fraternity offers free seminars every other month. These presentations include: Danger – Tobacco, Drugs, and Alcohol during Pregnancy – a Risk Combination; Coping with Stress during Pregnancy; The Role of Genetics; Eating for Two; Fitness for Two; Complications during Pregnancy; Pregnancy after 35; Your Newborn Baby; and Bouncing Back. The seminars are offered on-site and are open to any members of the Maternity Fraternity and anyone else who is interested in the topics.

There are several criteria for membership in the Maternity Fraternity that must be followed. The mother-to-be must:

1) See a private physician and report to the General Dynamics Medical department during the first three months of pregnancy
2) Interview with an industrial hygienist during the first three months of pregnancy
3) View a 25-minute March of Dimes videotape entitled "Journey to Birth"
4) Attend one of the free seminars (listed above) sponsored by the March of Dimes and the club during pregnancy

After completing the above criteria, pregnant employees may choose a gift such as a swing, car seat, porta-crib, stroller, playpen, or a $50 gift certificate.

To receive more information on the Maternity Fraternity club, contact Elaine Briggs at 43586 or Becky McDonald at 44135.

Next Maternity Fraternity Seminar: "Your Newborn Baby"
11 a.m. to noon, Wednesday, August 12 in the KM Building 24 Conference Center
Guest Speaker: Susan Osborne, Neonatal Outreach Coordinator, Children's Hospital and Health Center

Did you receive your copy of the* Orbiteer *Readership Survey? Surveys were distributed with this issue of the *Orbiteer*, and are to be returned to the editor by ***August 17*** (MZ C2-7097). If you did not receive your copy, please contact Deanna Wheaton, *Orbiteer* Editor, at 73234. **Thanks!**

Just-In-Time Processes

Continued from front page

The supplier is responsible for a certain material or service for the division. Based on the contractual agreement, as the need for a material or service is required by an employee of the division, the supplier delivers the material or service to the division "just in time" for its use.

"For this program, two critical things must happen," Kyle Keath, a senior Procurement buyer and a JIT project coordinator, said. "First the materials must be available from the supplier when needed, and secondly the material must be 100 percent defect-free."

Kyle is presently coordinating the first production material JIT project – fasteners. A slow and easy JIT implementation process is currently being placed in effect to reduce the leadtime required to order fasteners and get them to the shop floor when needed.

A cross-functional team is currently working on this project, represented by employees from Quality Assurance, Material Operations, and Procurement, with additional support from Logistics and Production Control.

"The key to this whole project is trusting our supplier," Kyle said. "Can we trust the supplier to do what they say they'll do, when they say they'll do it? Partnership is the important word here. We [GDSS and the designated supplier] must trust and rely on each other."

The implementation of the production material JIT project is the third phase of the overall division Just-In-Time process. When fully operative, this production material process will aid the division in doing things right the first time in relation to schedule promises, Mike Wynne stated.

Phase One of the JIT process established partnerships with designated suppliers to deliver non-production materials and services.

A primary example of this is Bayless Stationers, who maintains and delivers all of the division's office stationery supplies. When an employee needs supplies such as pens and tape, he/she can order these items directly from Bayless without having to go through a Procurement buyer. Delivery of the supplies is made directly to the person who ordered them, without having to be processed through Receiving Inspection. This direct delivery from the supplier also eliminates the need for the division to keep an office supply inventory warehouse on-site.

There are presently 68 JIT non-production contracts in place at Space Systems Division. Other contract examples include Liquid Carbonics, our supplier of gaseous nitrogen and hydrogen; Waxie Enterprises, our supplier of janitorial supplies; and Reynolds and Reynolds, our forms management (stockless) supplier.

The second phase of the division's JIT process was the implementation of the Field Purchase Order (FPO) system for purchasing non-production indirect items. Implemented in May, 1991, the FPO system enables 14 authorized departments to order non-production items with total values less than $2,500 directly from specified suppliers without having a Purchase Order processed through the Procurement department.

"TQM, MRP II, and JIT are all a part of our goal to produce a '24-month rocket,'" Mike Wynne said. "Management of inventories is the key to all of these processes."

GD To Support 1992 Leukemia Society Televent Benefiting Leukemia Research

The Leukemia Society of America brings a star-studded afternoon of entertainment to your living room from noon to 5 p.m. on XETV, Channel 6, on August 8. Broadcast from Hollywood's Universal Studio, the society's annual TELEVENT helps fund the research that could find a cure for leukemia.

As a major sponsor, General Dynamics will be featured from approximately 3 – 5 p.m. Pledges will be taken throughout the five-hour show. General Dynamics will match contributions of $50 or more made by full-time employees with six months of continuous service or retirees who worked for GD for more than 10 years. Call 79036 to get your Matching Gifts form to send in with your contribution.

Everyone had a great time at the Silent/ Live Auction held in June, benefiting the Leukemia Society. This event raised $28,000 for donation to the society.

Listed below are the GDSS representatives on the VIP panel, who will be taking pledges from 4 – 5 p.m. Call them directly to place your pledge during this time frame.

This is the sixth annual TELEVENT and will be co-hosted locally by Carol LeBeau and Jack White. Tune in to the Leukemia Society's TELEVENT on August 8. Join the show's celebrities in finding a universal cure for leukemia.

MAIN TELEVENT NUMBER: 571-8088
GDSS VIPs:
Ben Wier: 571-8024
Roy Bennett: 571-8025
Ron Stoneburner: 571-8026

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ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

August 21, 1992

Recycling Update

City Honors GDSS with Recycling Achievement Award

The City of San Diego's Waste Management department recently presented a Recycling Achievement Award to General Dynamics Space Systems Division in "recognition of the outstanding contributions toward waste reduction and recycling in the work place."

This award directly reflects on the outstanding efforts of the GDSS employees who participate in the voluntary waste paper recycling program in place at all Space Systems facilities.

This recycling program saves the division money as well as precious resources. To date, the division has saved 4,358 trees and 2,683,458 kilowatt hours of power – enough energy to supply 513 San Diego homes with power for a year. Also, 176,085 gallons of oil, 24,768 gallons of fresh water, and 851 cubic yards of landfill space have not had to be used!

California Assembly Bill 939 mandates a 25 percent reduction in the amount of solid waste our company sends to the landfills. The compliance date for this bill is January 1, 1995, with a required 50 percent reduction by the year 2000.

On June 19, GDSS received this certificate in recognition of our outstanding recycling program.

Division Receives Outstanding Rating in DIS Inspection

For the third consecutive time, GDSS has passed the semi-annual Defense Investigative Service (DIS) inspection without any serious deficiencies. During the out-briefing with Division President Mike Wynne following the inspection, the DIS inspector said, "This was the best inspection ever for Space Systems Division."

According to Ron Davis, Security director, "The success of the Defense Industrial Security Program at Space Systems Division continues to be contingent upon employee awareness of and compliance with established security policies and procedures. This was successfully demonstrated during our recent inspection."

"This was the best inspection ever for Space Systems Division."

- Defense Investigative Service inspector

Ron hopes that this outstanding rating will help in getting the division considered for the Cogswell Award. This award recognizes superior industrial security company programs within the Defense Industrial Security program.

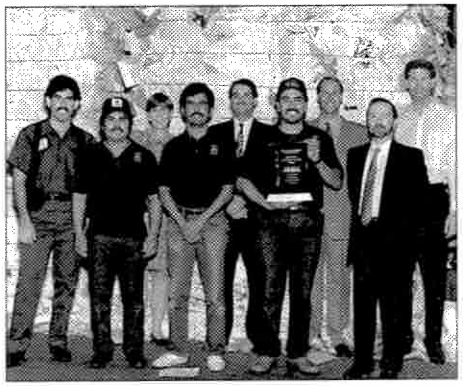
During the GDSS inspection, 61 cleared employees were interviewed by DIS concerning their level of security knowledge and awareness

Please see **DIS Inspection** *on back page*

Currently, the division program, under the direction of Tom Edwards of Facility Services, recycles office paper, newspapers, and Tyvek garments used in the clean room. Future recycling programs will include plastic and computer toner cartridges.

Employees are urged to separate paper by type – computer, white bond, or color – at their desks, and, as necessary, empty their desk collector contents into the appropriate hallway bins. The papers that can be recycled include the *Orbiteer*, newspapers, and all colored paper (including division notices). The industry standard on accuracy for separating the papers into the appropriate bins is 95 percent. Due to enthusiastic employee support, Space Systems Division has a 99 percent accuracy rate.

Each Monday, Paper Recovery of San Diego, Inc., our supplier for recycling support, empties the large hallway bins. In recognition of their outstanding support and service, Paper Recovery of San Diego received the GDSS 1991 Supplier of the Year award.



Tom Edwards (front, far right) presents the 1991 Supplier of the Year award to the employees of Paper Recovery of San Diego.

Congratulations to all involved in this outstanding voluntary program. For further information on the division's recycling program, or if your department is using and disposing plastic, please contact Tom Edwards at 32905.

Harlingen Highlights

Harlingen Procurement Team Support Pushes Division over Program Goal

Sizeable commitments to the Small and Small Disadvantaged Business Program have led to the recent recognition of the Harlingen Facility Procurement department.

Roy Bennett, division vice president – Material, presented an award to the staff at Harlingen in appreciation of their committing more than $2.4 million to the 1991 Small Disadvantaged goal of $9 million. This figure represents 27 percent of the total commitments for the year.

"We would not have exceeded our goal for the year without the efforts and accomplishments of this buying facility," Tim O'Leary, GDSS Small Business Liaison officer, stated.

Mike Morgan, manager of Material at the Harlingen Facility, accepted the appreciation award on behalf of his team of purchasing agents and buyers who contributed this substantial number of commitments.

Roy Bennett, division vice president – Material, presents an award of recognition to Harlingen Facility's manager of Material, Mike Morgan. Mike accepted the award in behalf of the Procurement group.

According to Roy Bennett, "Mike Morgan and his team are to be commended for their diligence, outreach efforts, and commitment to the program. Their contribution is greatly appreciated."

Harlingen Facility Employees Complete Zenger-Miller Frontline Leadership Training

By Noelia Gutierrez

Former President John F. Kennedy once said in a speech to Congress, "The right to lead is earned, not inherited." Forty-five employees at the General Dynamics Harlingen Facility have taken the first step in earning the right to lead by successfully completing an after-hours, voluntary, nine-month training program in Zenger-Miller Frontline Leadership.

The program's class, made up of both hourly and salaried employees, began in September 1991 and concluded in May 1992. By the end of the training, each employee had received over 57 hours of instruction – equivalent to the hours required to be a college sophomore.

The training consisted of 23 units of study that were grouped into six major topics: Core Interpersonal Skills, Managing Individual Performance, Developing Team Performance, Making Organizational Impact, Managing Change and Innovation, and Problem Solving for Individuals and Teams.

Congratulations to the following GDHF employees who demonstrated their professionalism, self-motivation, and dedication in finishing this challenging course: Daniel Ayala, Manuel Balderas, Terry Bernard, Harry Bigrigg, George Cotter, Arnold De Leon, David Estrada, Barbara Faison, Kenneth Fitzhugh, Rosalinda Galvan, Eliseo Garcia, Craig Haddad, Kevin Happy, Thomas Hayden, Joyce Hopkins, Robert Hopkins, Kevin Hunter, Noe Jimenez, Jim Jones, Michael Miceli, Stephen Moes, Margarito Morales, Gerardo Munoz, Santiago Olivarez, Ninfa Ortiz, Patty Palacios, Jerry Pemberton, Roberto Pena, Jimmie Puckett, Paul Ramirez, Stephen Ritter, Ernest Salceda, Silvia Saldana, Bill Sandell, Roy Schwartztrauber, Gary Shield, Ted Shrader, Vera Smith, David Sosa, David Stevens, Oscar Stiles, Rodney Stonebraker, Ron Thigpen, Fred Whittle, and Rocky Winter.

How to Maintain Comfort with your Computer

Every day, employees throughout the division work on computers. No matter what kind of computer you use – Macintosh, IBM, Decmate, or CAD – you may experience minor muscle tension, stiffness, fatigue, or eyestrain related to sitting in front of your terminal for too long. There are, however, ways to prevent these problems.

1. Good Posture

Good posture will minimize pressure on your back caused by sitting in one position for extended periods of time. In order to maintain good posture, you must keep your three natural spinal curves aligned: cervical (neck), thoracic (upper back), and lumbar (lower back). Draw an imaginary line running down through your ears, shoulders, and hips, while keeping your forehead level with the top of the computer screen. If you maintain this straight line, you are keeping the three curves aligned.

Provide support to your lower back with a lumbar roll or a towel rolled up. Place it, while sitting in your chair, in the small of your back to provide lumbar support. Also, shift your weight forward off of your spine by adjusting the height of your chair. Your arms need to be at desk level. To reduce tension and loosen muscles, shift your position through out the day, always keeping your spine aligned.

2. Eyecare

Eye strain is common among people who stare at computer screens for extended periods of time. Eye muscles can get fatigued and cause discomfort. In order to reduce the strain on your eyes caused by constant refocusing, place the documents you are working from close to your screen and at a distance similar to that of your screen. This will also help reduce any strain in the neck muscles caused by turning your head to see documents clearly. If eye strain is a recurring problem, see your doctor for an eye exam and explain that you work at a computer screen regularly.

For further information on maintaining comfort with your computer, contact Elaine Briggs of the Safety and Health department at 43586.

9/21/92

Top-Down Leadership Incorporated in MRP II Video Education Program

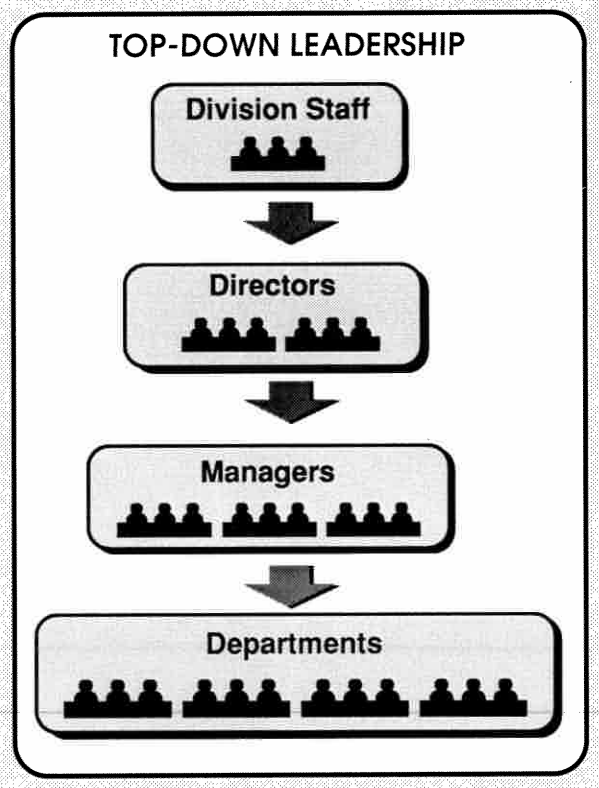
By Homer Spears,
MRP II Training Coordinator

Effective education is a critical element for the successful implementation of Manufacturing Resource Planning II (MRP II). It requires an understanding of the need for change and how MRP II will affect the way we do business.

A division video education program was developed to accomplish this objective utilizing the Oliver Wight Company's MRP II video library. (Oliver Wight's program was described in the May 15 issue of the *Orbiteer*.) The program was designed to become a model for implementation at all General Dynamics Space Systems Division sites designated for MRP II installation. Courses were designed to be **top-down** and **cross-functional** in order to facilitate communication and understanding between departments on how they affect one another.

In October 1991, we kicked off a video education pilot program at Plant 19 with courses designed around the natural working groups that interface on a daily basis in the work place. Major emphasis in each class encourages dialogue between participants about how MRP II will affect the way we do business now and in the future. According to Mike Wynne, division president and general manager, "The outcome of these sessions is a reduction in the barriers of communications between functions, facilitating teamwork and process problem solving."

> "Commitment from management down is important for program success."
>
> – Mike Iverson
> MRPII/IRM Director



In keeping with the division MRP II initiative of total involvement, division staff members have led video education sessions relating to their organizational responsibility with other division staff in attendance. The first session was led by Mike Wynne discussing "The Formal and Informal System" of MRP II implementation.

Upon completion of these video sessions, all division staff members will lead and facilitate similar video education sessions with their directors and direct reports, who will in turn lead similar sessions with their managers and direct reports, and so on until all employees in the organization receive the education. As stated by Mike Iverson, MRP II/IRM director, during the concluding educational video session, "Commitment from management down is important for program success."

Adequate education is not a liability but an investment. There is no *short cut* or *quick fix*. Education is a continuing process – it has no end, but it does have a beginning and that beginning is a commitment by each individual employee to make the investment in the MRP II education. MRP II is a recipe for excellence representing the most exciting and important change to our division. It is a recipe to assist us in becoming the Best in All of Space.

Orbiteer Readership Survey Update

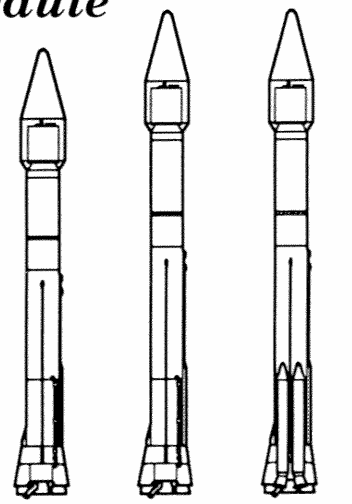
Thanks to everyone who responded to our survey that was distributed with the last issue of the *Orbiteer*. We received 638 responses. The results and actions we will be taking will be printed in a future issue of this newsletter.

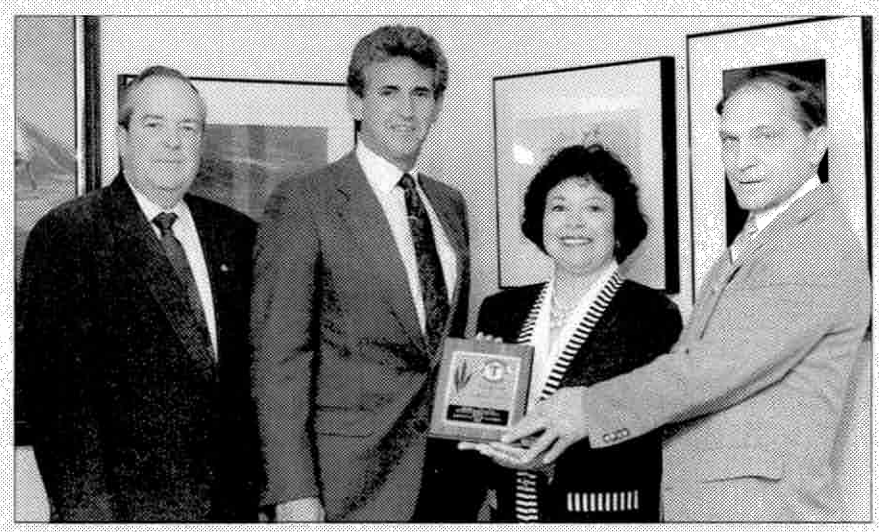
Your opinions count!

Upcoming Launch Schedule

Below is the "manifest-to-date" for Atlas launches through 1993. Thanks to Steve Trudgen for recommending that the Orbiteer *supply this information to GDSS employees!*

AC-71	Galaxy I-R	August 1992
AC-104	MLV II	Classified
AC-74	UHF 1	October 1992
AC-76	UHF 2	September 1993
AC-108	Telstar-401	October 1993
AC-73	GOES-I	December 1993





Toastmasters Give Award... *The Toastmasters of America have recognized General Dynamics Space Systems Division for its support and dedication to the organization. Presenting the appreciation award was Frank Parzych, District 5 Governor of the Toastmasters (far right). Also present were Durwood English, Atlas program manager and past International President of the Toastmasters, Terry Banderas, manager – Business Communications, and accepting the award, Yolanda Mendoza, GDSS Community Relations administrator.*

Space Systems Inventors

The following employees have been credited with inventions. Patents have either been applied for or awarded to them by the U.S. Patent Office.

Mark A. Wollen of Atlas Thermodynamics received a patent for his invention of an improved fuel system for horizontal take-off hypersonic aerospace vehicles. This fuel system mixes fuel vapor and liquid fuel and supplies the mixture to the engine.

Theodore G. Stern, Mickey Cornwall, and **David M. Peterson** of the Space Power Generation program, and **Jon F. Lawrence** of Advanced Structures Design are co-inventors of a deployable and retractable photovoltaic concentrator-type solar panel array for space applications. Each panel includes an array of unique off-axis parabolic mirrors that concentrate light on lines along photovoltaic cells on the back of adjacent mirrors.

Security Goes On-Line with Visitor Control

In order to facilitate the computerization of the visitor control process, Industrial Security has developed a worksheet for classified visits to take the place of the current Visit Request Form.

This new Request for Classified Visit Form (Form 4017 8/92) has been designed to streamline the outgoing visitor control process. Use of the current form is acceptable until supplies are exhausted.

You can obtain the new form on any MacServer, or by bringing a blank Macintosh computer disk to Industrial Security to be copied.

Industrial Security would like to remind all travelers planning to attend a classified meeting that this form should be filled out and sent to Industrial Security for processing, allowing a week for lead time. Anyone needing assistance in getting the new form should contact Industrial Security at 44596.

The Engineering Information Exchange Presents:
"Russian Space Technology" with guest speaker Bob DiNal,
division vice president – Research & Engineering
11:30 a.m., September 1 in the KM 24 Max Conference Center

DIS Inspection

Continued from front page

relative to the Defense Industrial Security Program. The inspectors commended several employees on their high level of security awareness exhibited during the one-on-one interviews. DIS attributed a significant portion of this heightened awareness to the Department Security Representation program.

Also noteworthy of this inspection is that no Automated Information Systems (AISs) deficiencies were cited, a division first. AISs are utilized for processing classified information in support of some of the division's classified programs.

The Document Control area also was noted as deficiency-free, for the third time. This area is responsible for processing all classified material received and generated at GDSS.

In closing, the DIS inspectors stated that the security posture of the division remains very strong. The Industrial Security department would like to thank all employees who prepared for and participated in this inspection and especially the Department Security Representatives.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending August 7, 1992)

Cape Canaveral	559
GD Space Services	65
Hammond	114
Harlingen	268
Huntsville	13
San Diego	2,907
Vandenberg	216
Other Offsite Locations	41
TOTAL	**4,183**

ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION
September 18, 1992

CLS Establishes Near-Term Objectives Following AC-71 Failure

By Charlie Lloyd, division vice president & managing director of Commercial Launch Services


Charlie Lloyd

We are all very disappointed with the AC-71 failure. As President Mike Wynne has said, however, we must put this event behind us and concentrate on the tasks ahead.

Our objectives over the next four months are clear. First, we must continue to support our existing customers as they move toward their respective launch dates. Second, we must secure at least one new launch contract by the end of 1992. Nothing short of the next successful launch would generate a more positive signal to the customer community than to secure a win during the next several months.

The job of signing up a new launch will not be easy. I see five opportunities from which to secure a contract: INMARSAT, SAJAC, TOPAZ, the Galaxy Relaunch, and the second ORION.

Obviously, we will need the support of the failure investigation team in our efforts. For our part, however, we must be creative, tenacious, and single-minded in our determination to meet this objective of one new launch contract by the end of 1992.

This is a difficult challenge we can and will meet. We should expect nothing less of ourselves. I appreciate your personal support of our efforts.

Questions and Answers

The Orbiteer held a phone interview with Charlie Lloyd, who was in London meeting with potential customers, to get additional information on what we are doing to get new business following the AC-71 failure.

What are we doing to secure one of the five launch contracts mentioned in the near-term objectives article? *(see left)*

First and foremost, the division is trying to find and fix the cause of the two launch failures. Nothing is more important to our future business than that.

Secondly, each Commercial Launch Services team leader has been directed to build a strategy outlining how CLS can secure a win on each program.

We have people traveling all around the world making contact with our customers to find out what it takes for us to win their new business. We are also trying to win other contract awards within the next five to six months, such as the Intelsat Follow-on satellite.

Who are our primary competitors at this point?

Ariane is considered our foremost competitor at the moment, although China and Russia will be competing to win some of the contracts we are going for.

How has the launch failure of AC-71 affected GDSS's competitiveness?

In the near term, our customers are clearly looking for GD to string together a long series of successful launches after we fix the cause of the AC-71 failure. They continue to show respect for the long-term launch history we have, but we need to reinforce their belief.

If we can't get back to providing continuous reliable launches as soon as we solve the problem, our customers' confidence will decline, hurting us in the long run.

The space launch vehicle business is known to be risky. Have any of our competitors had a similar repetition of failures?

Yes. Ariane had problems with launches a few years ago. They lost two out of four launches that year; but they have been able to overcome the problems, and so can we.

Launch Contract Opportunities

In his article at left, Charlie Lloyd mentions five launch contracts that we have a chance in winning. Below are descriptions of these opportunities.

- **INMARSAT 3** – The International Maritime and Mobile Satellite Communications Organization has already awarded us a contract for two Atlas II launches, and will decide on two more launches in November. Atlas is competing with Ariane for one of these launches.
- **SAJAC** – The Satellite Japan Corporation will launch one or two satellites in the Atlas IIA-size class to provide domestic communications in Japan. Hughes will build one of the satellites, and we have proposed to Hughes to provide launch services.
- **TOPAZ** – The Strategic Defense Initiative Office (SDIO) plans to launch a recently acquired Russian nuclear reactor for space applications and test purposes. A Request for Proposal is expected from them within a month.
- **Galaxy Relaunch** – Hughes Communications is evaluating alternatives to replace Galaxy I-R, and is considering either another HS-376 satellite in the Atlas I-size class or a HS-601 (Galaxy 8) in the Atlas IIA-size class.
- **ORION** – British Aerospace has already ordered one Atlas IIA to deliver a satellite to orbit for ORION, and a second may be ordered in the next several months. These satellites will provide transatlantic video and business communications.

Inside Space ...

From Human Resources – **The Maritz Awards Program expires December 31, 1992.** All employees with outstanding award points must redeem them before the expiration date. Please call 44198 or 44045 if you have any questions.

From Research and Engineering –**The Systems Engineering group recently implemented an on-line, integrated R&E calendar** via EM/OS (shared file [SS_RECAL]), MAC, or PC. This calendar will hopefully assist in scheduling meetings more efficiently. For instruction on getting this information, or to provide input, please contact Judi Picard at 78061.

From Community Relations – **The Zoological Society of San Diego presents the Twelfth Annual Celebration for the Critters.** *Take a Walk on the Wild Side* will be held from 6:30 p.m. to 11 p.m., October 2 at the Town & Country Convention Center. Cocktail attire is requested. Tickets are $40 in advance, $50 at the door. If you are interested in this fun evening of food and dancing, with a silent auction, contact the zoo at 557-3974.

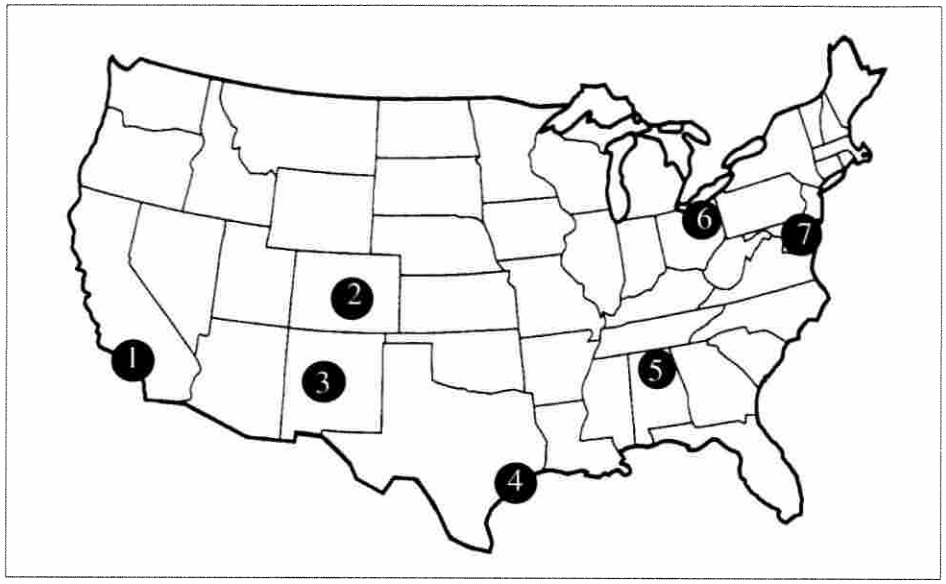
From the Space Crafts Club – **This CRA craft club welcomes you to join a fun group of creative, crafty people.** The club meets the second and fourth Tuesday of each month in the CRA Clubhouse. For more information, contact Susan Shanaberger at 44295.

From Security – **An employee left a child's backpack at the Harbor Drive Facility's guard gate** several weeks ago. The bag is filled with children's items. Please contact Diana Campion at 44622 to claim the backpack.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending September 5, 1992)

Cape Canaveral	557
GD Space Services	66
Hammond	124
Harlingen	267
Huntsville	17
San Diego	3,138
Vandenberg	213
Other Offsite Locations	38
TOTAL	**4,422**

GDSS Field Offices Provide Customer Network



Did you know that Space Systems Division has seven field offices across the United States set up to provide links with our various customers?

Presently, 38 employees support these various offices. They meet and work daily with the customer to find out what customer needs are and how we as a contractor can support those needs. Below is a list of the sites and the respective customers.

1 Los Angeles, CA – Air Force Space and Missile Center NASA Jet Propulsion Laboratory

The Air Force Space and Missile Center administers key GDSS Air Force contracts, including the Altas MLV II program, Titan/Centaur, and the National Launch System. NASA JPL is our contact for scientific missions.

2 Colorado Springs, CO – Air Force Space Command

Air Force Space Command establishes requirements for all of the Air Force launches. This office is the launch operator and parent command office.

3 Albuquerque, NM – Air Force Material Command – Phillips Laboratory

The Phillips Lab is one of four major Air Force labs that focus on space technology development. The lab is a source of CRADs and product improvement funding for our launch vehicles.

4 Houston, TX – Johnson Space Center

This center's primary responsiblity is the new development and future planning of space exploration programs. These include future exploration missions to be launched on the Atlas launch vehicle.

5 Huntsville, AL – NASA Marshall Space Flight Center

Marshall SFC focuses on the NASA NLS program. GDSS hopes to expand this field office in the near future. Marshall is also a source of CRAD funding.

6 Cleveland, OH – NASA Lewis Research Center

LeRC procures Atlas launches for NASA. This site also is involved in Centaur development work and CRAD funding.

7 Washington, D.C. – Pentagon & NASA Headquarters

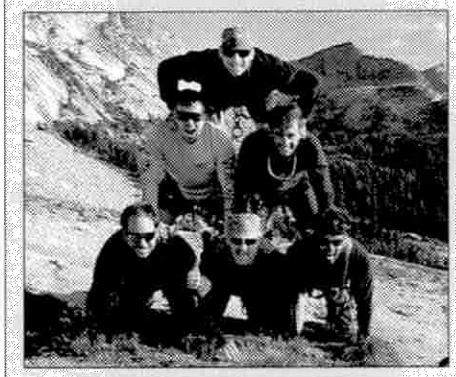
These two offices in Washington make up the key decision makers for all funding and policies for critical GDSS programs. The GDSS employees in this field office act as legislative liaisons for the division.

9/18/92

Employees Climb Mountains to Get Away from It All

Some General Dynamics employees will do almost anything to break the routines of the standard work week. Members of the CRA Climbing Club travel several times a year to various rockclimbing spots throughout California. The club, consisting of approximately 30 men and women, goes on these adventures in the fall and spring, depending on the weather.

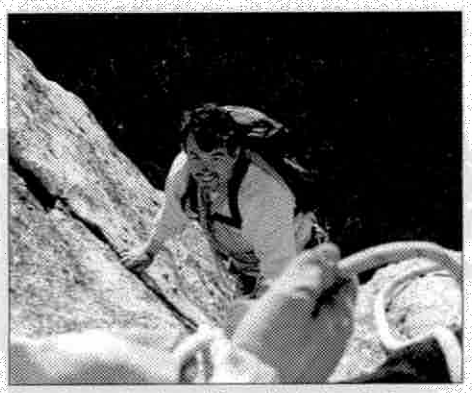
"We go to Joshua Tree about two dozen times each year for climbing," Steve Hadjuk, the club's financial officer and an employee at GDSS, said. These climbs take about 30 minutes to an hour, depending on the difficulty of the climb.



*Six members of the CRA Climbing Club tackled Toulemne Meadows in July (*bottom row: *Dean Harris, Mike Jones, Steve Hajduk;* middle: *Gary Webster and Dave Schalla;* top: *Andy George).*

The club also travels yearly to Yosemite National Park to climb in Toulemne Meadows. The "Regular Route" on Fairview Dome in Toulemne Meadows is considered one of the top 50 routes to climb in the United States, according to Club President Dean Harris.

"This year, a group of six club members made the climb over the July 4 holiday," Dean said. "It took us 11 hours to get to the top of Fairview Dome [see photo at top right]. After a casual walk-off down the backside and a hike through the moonlit forest, we were back at our cars in about an hour and a half."



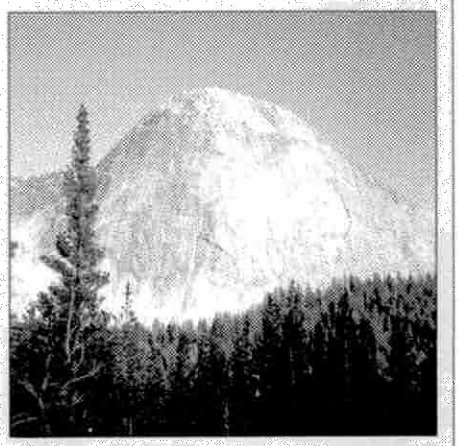
It's a long way down! Gary Webster climbs up the side of Fairview Dome.

These enthusiasts practice during the off-season at a rockclimbing gym in Temecula. They volunteered as judges for two rockclimbing competitions, one at the gym they use, and the other at Mount Woodson in Ramona. They also participated in an outdoor competition at Oak Flats in Phoenix, AZ.

In these competitions, climbing routes with different levels of difficulties are set up. The climbers must climb the routes within a designated time frame.

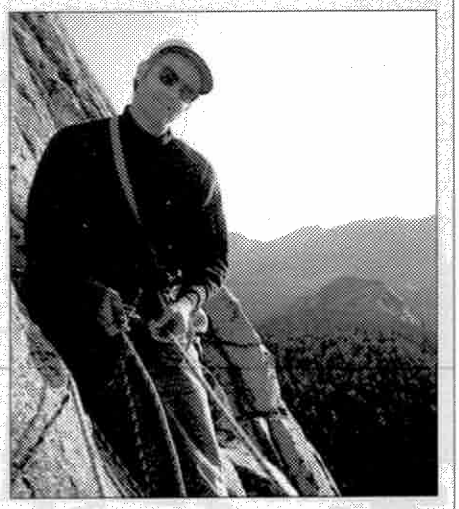
Even though many people may see this sport as dangerous, the members of the club view it as an enjoyable way to get exercise.

"Rock climbing is a fun sport for adventurous people," Steve said. "Plus, it's a great way to work out."



***Above** Fairview Dome in Yosemite National Park towers at 1,850 feet and features one of the top 50 climbing routes in the United States.*

***Below.** Steve Hajduk takes a break during his climb with the group in Yosemite.*



If youwould like more information on this exciting sport or about the CRA Climbing Club, please contact Steve Hajduk at 39009 or Dean Harris at 73241.

Coming Soon...

The Best in Space Recognition Program

Look for more information in the October 2 issue of the *Orbiteer* !

CCAFS Organizes Donations for Hurricane Victims

GDSS employees at Cape Canaveral Air Force Station quickly banded together the week following Hurricane Andrew's ravage of Southern Florida. Although the hurricane did not hit the Cape area, many people were left homeless in Southern Florida.

Employees collected and donated $1,683 to the Salvation Army to be used to provide relief to the victims of the storm. In addition, desperately needed donated items filled two cargo vans that were sent to the Miami/Homestead areas of Florida.

Special recognition goes to the following individuals who assisted in collecting and sorting the donated items: Tina Brisson, Jorge Castillo, Ron Hill, Mark Hall, Steve Mosley, Jennifer McCoy, Kris Bouchard, Sam Burleson, Larry Cochran, Sherry Russo, Don King, Susan Ross, Ben Price, and Pete Silva.

Employees from all GDSS sites can still make donations in support of victim relief efforts in Florida. If you are interested in helping, contact your local Salvation Army or American Red Cross to find out what items are needed.

GDSS – San Diego to Pig Out at Santa Maria Barbecue on September 26

You are all welcome to join the rest of the San Diego crew at this year's Santa Maria Barbecue.

This year promises to be just as good, if not better, than years past, so be sure not to miss it!

As always, the event will be held at the CRA Missile Park. The executive host for the day is Ben Wier, division vice president and Atlas Programs director.

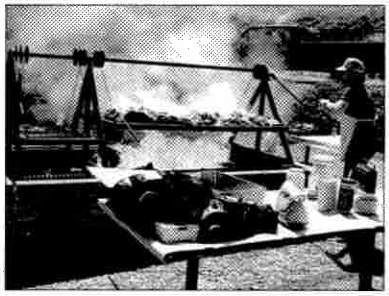
Tickets are $8 for adults, $2 for children under 10. Be sure to get yours today from any NMA booster.

Rich Golden, NMA president, sells the first Santa Maria Barbecue ticket to Judd Giesenschlag, primary organizer of the event.

Prizes will be given away as part of the drawing to raise money for the NMA's scholarship fund. These prizes include Atlas models, a gourmet picnic basket for two, and a balloon ride for two. A trip to Hawaii for two will be the grand prize of the day.

So hurry out to the CRA Park on September 26. The park opens at noon, with great prime beef, roasted over a Santa Maria oak fire, served at 3 p.m.

Vandenberg Employees Eat Santa Maria Style at Company Picnic



Vandenberg employees ate this great beef at their annual company picnic held July 25.

Vandenberg employees and family members were delighted with the events of the annual company picnic held on July 25.

This year's event was hosted by the VAFB Human Resources department. Santa Maria Style barbecue highlighted the day with 372 pounds of Top Block sizzling above a pit of flaming oak.

A variety of exciting children's games, clowns, and a magic show kept children of all ages entertained. Children also had their photo and fingerprints taken by the local kinderprint crew.

Other points of interest included a horseshoe tournament, a watermelon eating contest, and a knobby knees contest.

Retirees

Thanks & good luck to these GDSS employees who recently retired:

Howard M. Bernbaum
Engineering Specialist ..... 3 years

Victor C. Cardiel, Jr.
Engineer, Sr. QA ..... 42 years

David E. Hays
Project Engineer Sr. ..... 40 years

Ronald C. Miller
IRM Specialist Sr. ..... 18 years

Norman D. Pagel
Engineering Specialist Sr. ..... 34 years

Howard W. Riner
Project Engineer Sr. ..... 35 years

Vandenberg Operations Excels in Safety Inspection

By George La Combe, VAFB Safety Engineer

Recently, General Dynamics Vandenberg Operations received an Outstanding rating during the annual Air Force Safety Inspection of Atlas Launch Facilities located at Vandenberg Air Force Base.

Local Safety officials conducted the two-day inspection on August 6 and 7. This in-depth review of all facilities under GDSS control was accomplished by civilian and Air Force safety personnel assigned to the 2nd Space Launch Squadron Safety office.

Areas evaluated pertained to safety program management, training, housekeeping, and facility maintenance.

Division Supports USO in 1992 Fund-raising Campaign

Mike Iverson, IRM and MRP II director, recently kicked off the division's 1992 United Service Organizations (USO) fund drive – The Campaign for Freedom's Finest.

Mike Iverson chairs this event, with Roger Dunn of Division Compliance as co-coordinator.

General Dynamics has pledged a total of $2,000,000 to the USO. The company will contribute $500,000 of this total and will match $750,000 of employee contributions.

The USO provides services to U.S. military forces both during war and in times of peace. These efforts include:

- Mobile canteens and service centers in foreign countries
- Emergency assistance for service personnel and their dependents
- Literacy programs
- Family and community programs

General Dynamics Chairman and CEO William Anders chairs this fund drive nationally. This campaign will be the largest USO fund-raising effort since World War II, with a goal of $24 million.

Department coordinators have been designated to support this event. You should be receiving information on this fund drive any day. Checks and payroll deduction cards will be accepted.

The USO does not receive any federal funding. All programs are supported through gift funding, and all donations to this non-profit organization are tax deductible.

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

Space Systems Division's *Orbiteer* is published every other Friday. Send items of interest to:

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

October 2, 1992

Icing Seen as Possible Cause of AC-71 Launch Failure

The AC-71 Failure Review Oversight Board is now considering whether ice may be associated with the lack of turbine acceleration on the Centaur's C-1 engine during the launch.

Ice in the turbomachinery could cause any one of a range of problems, including blocking fuel lines and starving the engine of fuel, or causing the engine to freeze up.

Failure of one of the Pratt & Whitney RL10 rocket engines also was the cause of the AC-70 failure in April 1991. Possible foreign material in the fuel lines was determined to have prevented the engine from firing during that launch.

Although the lack of acceleration was the culprit for both launch failures, "secondary data indicated a foreign object was likely not present" in Atlas/Centaur 71, according to Mike Wynne, GDSS president.

"Lots of questions need to be answered, but there is a direction to the analysis which will yield a more robust and, therefore, a more reliable propulsion system."

- Mike Wynne, division president

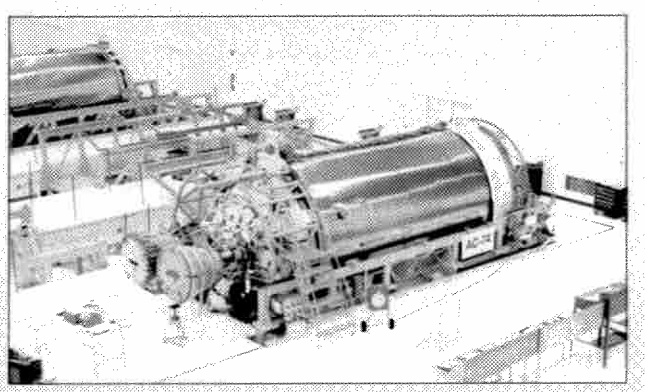
"Lots of questions need to be answered, but there is a direction to the analysis which will yield a more robust and, therefore, a more reliable propulsion system," he said in a division notice distributed last week, detailing the results of the oversight board's meeting held September 18 and 19.

The Centaur engines on both AC-70 and AC-71 were originally intended for the Shuttle/Centaur program, cancelled in 1986. This is not considered a factor in the investigation.

Retired Air Force general and former Kennedy Space Center Director Forrest McCartney leads the Failure Review

Please see **Icing** *on back page*

Titan/Centaur 17 Delivered to Kearny Mesa "Shortage-Free"



Centaur 74, one of three recent Centaurs delivered to Kearny Mesa Final Assembly with "zero-ALSL," is shown staged in the clean room area. This Centaur will be launched on Atlas 5054, boosting the UHF satellite into space. The other two "zero-ALSL" Centaurs are C-106 and Titan/Centaur 17.

John Grando, Kearny Mesa Building 5 Site Director

One of the criteria for customer satisfaction is to ensure, as a supplier, delivery of a finished product to the customer.

The employees of Plant 19 fill the role of supplier to the Kearny Mesa Final Assembly area and are responsible for delivering completed tanks in support of our demand schedule. Being complete means that no parts need to be installed, no open paperwork needs to be closed out, and no open Quality Assurance Reports (QARs) exist against the hardware.

The Assembly List Shortage Log (ALSL) is the metric for recording remaining tasks when hardware is delivered from Plant 19 to Kearny Mesa or from Kearny Mesa to Cape Canaveral Air Force Station.

When all criteria are met and no unplanned tasks need to be completed on a vehicle delivered to Kearny Mesa, the employees of Plant 19 deserve to be recognized for a "zero-ALSL" delivery.

Recently, the Kearny Mesa Final Assembly area received two Centaurs – C-74 and C-106 – that were delivered in this zero-ALSL condition. In September, TC-17 was delivered zero-ALSL to Kearny Mesa, marking the first Titan/Centaur to achieve this major milestone. We extend our congratulations to Plant 19 for this noteworthy accomplishment.

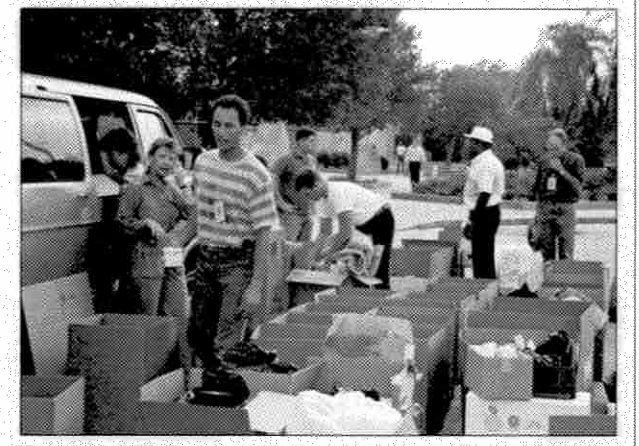
A First Hand Look at Destruction

By Michelle McIntire, CCAFS Orbiteer Reporter
Photos provided by Jorge Castillo and Michelle MCIntire

Cape Employees Recognized for Hurricane Relief Efforts

Following the August 22 launch of Atlas/Centaur 71, GDSS/CCAFS employees watched, prepared, and waited for the arrival of Hurricane Andrew, which was predicted to strike the east coast of Florida within a period of 24 to 48 hours. The CCAFS Launch Team and the U.S. Air Force Third Space Launch Squadron quickly turned their focus to AC-104, currently on stand at Space Launch Complex 36A, and took the necessary actions to secure the vehicle and surrounding ramp area, as well as all other GDSS-occupied areas on Cape Canaveral Air Force Station.

Hurricane Andrew did arrive on the southeast coast of Florida and left a 25-mile wake of complete ruin and desolation in the Miami/Homestead area. Hundreds of thousands of people are now homeless. Television networks compare the destructive results of Hurricane Andrew to that of a war zone, showing news footage of the homeless and the few remaining rooftops painted with messages – the only way of communication – "Help Us," "Need Food," "I'm Okay."



Several GDSS/CCAFS personnel volunteered to collect items donated by their fellow employees. Here, they load a van with some of the staples.

Employees from GDSS/CCAFS, members of the International Association of Machinists and Aerospace Workers-LL 610, the International Brotherhood of Electrical Workers, and the local National Management Association banded together to provide relief for victims of Hurricane Andrew, collecting desperately needed items and money.

"Angel Flights" brought supplies to ravaged south Florida. GDSS employee Jorge Castillo, right, and his father unload diapers from Jorge's Piper Warrior airplane.

Jorge Castillo, a CCAFS senior engineer and owner of a small Piper Warrior airplane, assisted by flying a portion of the donated supplies to areas in need. Jorge, who joined a relay of small planes and helicopters, flew nonstop for three days, shuttling load after load of supplies from various airports. This entourage of planes/helicopters flew a total of 189 flights and brought over 115,000 pounds of badly needed supplies during these three days. He radioed the South Florida airport towers indicating an "Angel Flight" so he could land at Tamiami and Homestead General Airports, which were open to relief efforts only.

Jorge said, "The damage was unbelievable – much worse than you can imagine. Hurricane Andrew reduced life for the survivors to the most basic necessities. People were starving. They hadn't had a drink of water in four days. Be grateful for what you have. You could lose it all in an hour!"

A letter from my aunt in Homestead, FL, began, "We had a very eventful August 24, and I expect things will never be the same in South Florida. Looks like a war zone. Most of the people have lost everything they had. No doubt, some have lost their will and others – their lives. With power outage predictions of two months, we have plugged into a neighbor's generator to run our refrigerator and a light, sparingly used. After sunset, a feeling of total isolation prevails in the silence and darkness resulting from the lack of street/house lights, radios, televisions, and phones with no communication from the outside world. Lack of mail and newspapers intensifies this, although I am positive the Hurricane Andrew aftermath in south Florida prevails in the headlines. We are getting lots of aid, but are wondering what will happen after the initial shock is over."

Hurricane Andrew destroyed many airplanes at Homestead General Airport. Shown above is a Cessna Centurion.

The employees at the Cape unselfishly provided assistance to those affected by this natural disaster. Ed Squires, division vice president – Production, thanked these employees for their spontaneous response in providing aid to the Hurricane Andrew victims, stating, "Not only were your donations and monetary contributions significant, your immediate response in rallying to support the unfortunate hurricane victims is a true example of world-class performance. I salute your compassion and humanitarianism."

10/2/92

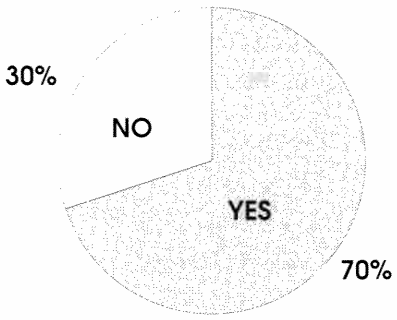
The *Orbiteer* Survey Results Are In!

We received 679 responses to the Orbiteer *Readership Survey distributed to employees with the August 7 issue of the* Orbiteer. *That figure represents 16 percent of the number of employees it was sent to – six percent over what we expected to see! Thank you for responding. Now, here is what you had to say...*

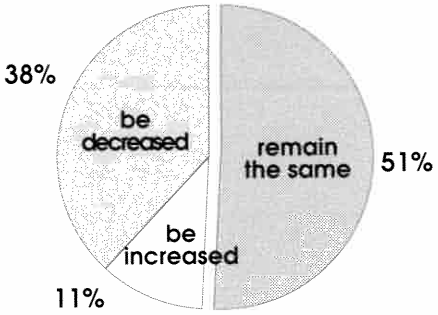
*(** Not everyone who sent in a survey responded to every question. Percentages are based on number of responses to each specific question.)*

CONTENT:

Question 1: Do you read the entire *Orbiteer*?



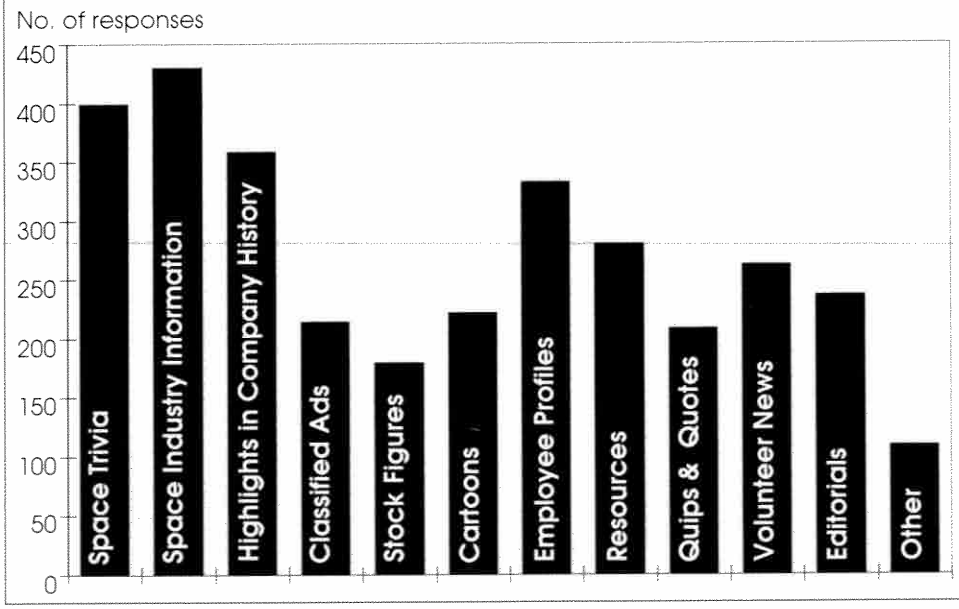
Question 2: Do you think the amount of personal news should:



Other Content Comments:

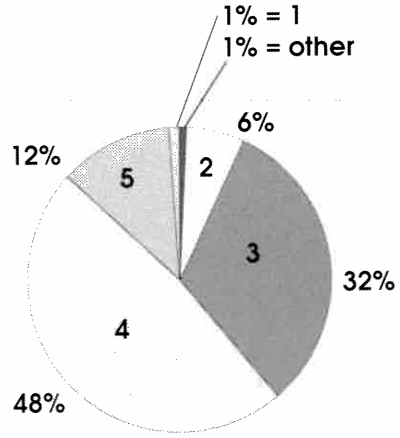
- Of the respondents, 79 percent asked that personnel promotions be listed.
- The general topics of the articles are found to be interesting by 70 percent of you.
- Photograph sizes are all right as is according to 88 percent of the responses.
- Appropriate technical language is used in the articles, so said 83 percent of the survey respondents.

Question 4: Please check the following article ideas that you would be interested in seeing in the *Orbiteer*. (check as many as apply)



DESIGN:

Question 9: On a scale of 1-5 (1 being the lowest rating and 5 being the highest), how would you rate the overall design of the newsletter?



Overall, we feel the responses to the survey were positive. We are presently evaluating budgets to see how many of the new features you requested (see chart above) we can fit into each issue. The majority of you like the size of the paper as is, but we might need to expand it if we are to include regular features.

We are also trying new ways of distribution to ensure that all Space Systems Division employees receive their issue on payday. (71 percent of the respondents said they did receive them on payday. We're concerned about the remaining 29 percent.)

This is your newsletter and we want to hear from you -- so please send us any articles, photos, or ideas you may have that will be of general interest to the employees of GDSS. We have a limited staff, and can't be everywhere, so we need you to be reporters too!

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending September 19, 1992)

Cape Canaveral	557
GD Space Services	65
Hammond	127
Harlingen	266
Huntsville	13
San Diego	3,138
Vandenberg	212
Other Offsite Locations	42
TOTAL	**4,420**

HR Initiates New Best In Space Recognition Program

Effective October 1, the General Dynamics Space Systems Division's Human Resources department presents the new Best In Space Recognition Program. This program replaces the Maritz Awards Program previously used.

The Best In Space program recognizes both individuals and teams of three or more employees who demonstrate exemplary service or effort. There are three award levels:

Level I	Impact on department by demonstrating exemplary service or effort that contributes to the department's short-term goals
Level II	Impact on department's long-term (current year or longer) goals by reducing the department's man-hours, material, schedule, and/or increasing quality (continuous process or product improvement)
Level III	Impact on several departments, divisions, or corporate goals that results in reducing material, man-hours, schedule, and/or increasing product improvement

Any Space Systems Division employee may nominate another employee or team, but approval from the nominee's supervisor or team's sponsoring management is required. The nomination can be easily processed on EM/OS using the {SS_EMOS}_RECOGNITION account or by generating a memorandum to Human Resources.

The awards for each level are as follows:

	INDIVIDUAL	TEAM
Level I	$25 Entertainment gift certificate or American Express gift cheque	$25 Entertainment gift certificate or American Express gift cheque *(per team member)*
Level II	$100 American Express gift cheque Framed Certificate	$50 American Express gift cheque *(per team member)* Framed Certificate
Level III	$250 - $2,000 cash Framed Certificate	$250 - $2,000 cash *(to be divided by team)* Framed Certificate

For further information about this new recognition program, please contact Human Resources at 44198 or 44045. Please remember that all outstanding award points in the Maritz Awards Program must be redeemed by December 31, 1992.

The San Diego Chapter of the Society of Women Engineers (SWE) presented a GDSS/SWE scholarship to a local female engineering student at their annual awards banquet held in August.

Pictured at left are Michele Labre, SWE vice president – Student Services; John Bodle, a GDSS Engineering director; Barbara Hammack, winner of the scholarship and an electrical engineering student at the University of San Diego; Debra Kimberling, SWE Region B director; Fred Kuenzel, a GDSS Engineering director; and Barbara Egan, SWE Scholarship chairman.

Icing

Continued from front page

Oversight Board. He is assisted by other senior industry officials and customer representatives, including the former executive vice president of Aerospace at General Dynamics Corporation, Dick Adams.

Space Systems Division will not resume launches at Cape Canaveral Air Force Station until the Failure Review Board's thorough review is completed and necessary corrective actions are taken. Atlas E launches from Vandenberg Air Force Base will not be affected by this launch hold.

Maternity Fraternity to Hold Seminar

The Maternity Fraternity is offering a seminar on "Eating for Two – Nutrition in Pregnancy" from 11 a.m. to noon, October 12, in the Kearny Mesa Building 24 Conference Center, Max room.

This seminar is open to all GDSS employees and their spouses. Come learn about the dependency of a baby in the uterus on the mother's nutritional intake, and what the nutritional needs are of women before and during pregnancy.

Attendees will also find out why a weight gain of about 25 pounds is recommended for pregnant women and how to properly meet the nutritional needs of pregnancy and the recommended weight gain.

For more information on this seminar, please contact Becky McDonald at 44135.

ORBITEER

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VAFB, (805) 734-8232 Ext. 69556

ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

October 16, 1992

SLC-3E Project Brings New Business to Division

General Dynamics Space Systems Division continues to pursue new business opportunities in the market place. One such effort is the Space Launch Complex 3 East (SLC-3E) Ground Support System (GSS) for Atlas II, formerly called the West Coast Atlas program. On September 30, we received a letter contract with initial authorization to proceed on the Aerospace Ground Equipment (AGE) and Integration portion of this project.

The SLC-3E GSS project's main thrust is the modification of SLC-3E, located at Vandenberg Air Force Base, CA, to accommodate the Atlas II family of vehicles (II, IIA, and IIAS). Along with this, we will activate the site, support the first launch, and support pad refurbishment.

Please see **SLC-3E Project** *on back page*

Division Receives Reduction in Force

Approximately 440 GDSS employees divisionwide received Reduction in Force (RIF) notices from their supervisors on October 6. This represents a 10 percent reduction in the division's workforce.

Employees throughout the division may feel unsure of why these cuts had to take place. According to Ed Squires, division vice president–Production, "The division's overhead expenditures are presently out of line with our production rates. This problem is reinforced by the AC-71 Failure Standdown presently in place."

This statement correlates with what Division President Mike Wynne said: "A recent assessment of the division's cost structure identified that we are not as competitive as we could be. In order for us to reach a stable basis for operation for most of 1993, we had to address these cost issues. An overhead reduction was the best means of returning us to stability."

He also had this message. "The work and programs that we presently have are maturing. Yet, we do not see other programs coming in to bring us more work. Therefore, we have to cut back to remain competitive. Economic recovery will take a while."

"The bottom line on future layoffs is the timely resolution of the AC-71 failure investigation and associated corrective action..."

– Ed Squires, division vice president – Production

But what about future layoffs? Dr. Roberta Baade, division vice president – Human Resources, responded, "Until we can foresee the future with better certainty, we cannot say we will not have more."

An example of this is the termination of the National Launch System Program *(see related article on second page)*. "No stop work order has been received yet," Dr. Baade said. "But if we get the stop work order, it will affect the people and their positions."

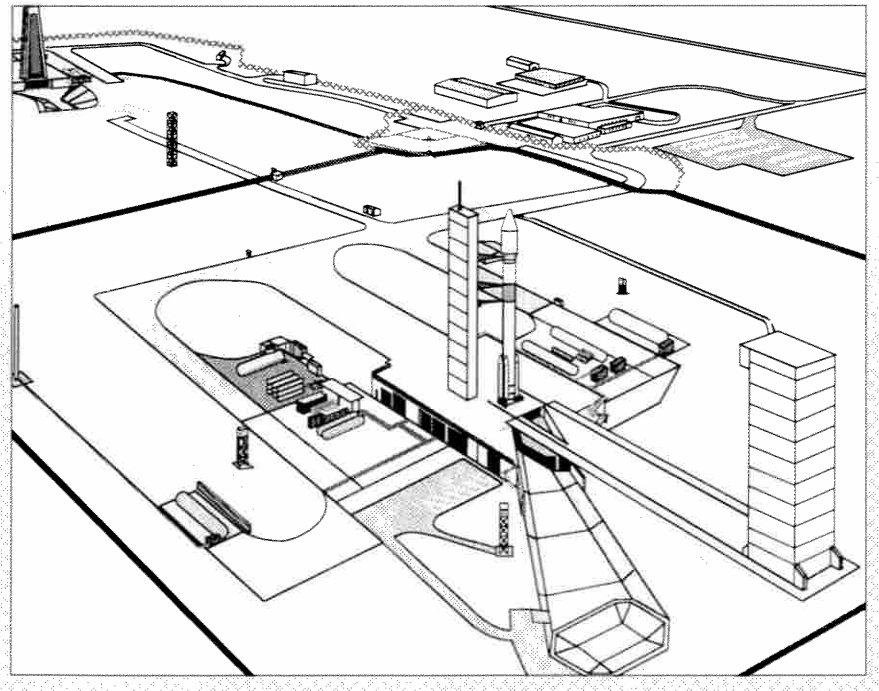
She also mentioned that we all need to realize that the whole defense industry continues to be downsizing; we are not alone.

Ed Squires said, "The bottom line on future layoffs is the timely resolution of the AC-71 failure investigation and associated corrective action, so we can return to production and launch operations."

Mike Wynne said the standdown will continue until the review board finds the problem and corrective actions are implemented.

In the meantime, the Human Resources department is working to make the transition for the layoff candidates as easy as possible. All division supervisors attended RIF

Please see **Reduction in Force** *on second page*



At Vandenberg Air Force Base, SLC-3E will be modified to accommodate the Atlas II launch vehicle family.

Focus on Government

Super Collider Development Bill Signed by Bush

On October 2, President George Bush signed legislation for continuing the development of the Superconducting Super Collider, an $8.25 billion "atom smasher" being built in Waxahachie, TX. GDSS is presently building Collider Dipole Magnets in support of this program.

The Super Collider program was in danger of being killed this past June when the House of Representatives cut $484 million for the project from the Department of Energy's fiscal 1993 budget. This action kicked off a fervent letter writing campaign at the division, getting the voice of GDSS employees to the members of Congress.

The Senate later reinstated the Super Collider Program, approving $517 million for the project. The DoE administration had asked for $650 million. About $1 billion has already been spent on the project.

Bush said the collider, in the long run, will allow America to compete scientifically with the rest of the world and "set sail for new ideas ... new ways of knowing."

The Super Collider, a 54-mile oval tunnel in which subatomic particles will be accelerated to nearly the speed of light and smashed together, is seen as a key to understanding the origin of matter.

"I want to thank the employees of Space Systems Division for steering and participating in the SSC letter writing campaign," Dick Hora, division vice president – Energy Programs, said. "This is a key program for future business in the division and your support has been effective and is appreciated."

National Launch System Funding Terminated

The following excerpt is from the Defense Appropriation Conference Report passed by both the House of Representatives and the Senate on October 5. It describes the actions taken by the Congress to cancel the National Launch System (NLS) Program, a program that GDSS has been pursuing for several years.

The National Launch System (NLS) was intended to develop a new family of launch vehicles for an initial launch capability after the year 2000 and was to be jointly funded by the Department of Defense and NASA. Over the past few years, the funding burden has largely fallen on DoD, with NASA providing only token amounts.

This year the House (of Representatives) provided $250 million for the NLS, an increase of $125 million above the budget request, to fully fund the fiscal year 1993 program requirement and in recognition of the fact that NASA would again be providing virtually no funds. The Senate provided no funds and directed termination of the program.

The conferees believe that the budgetary pressures on both DoD and NASA will preclude allocating the more than $10 billion required for this effort. The conferees agree that there appears to be little Congressional support for this program since only small amounts of funds are authorized and appropriated for NASA annually; and significant reductions in the DoD request are authorized annually. Therefore, the conferees direct that the program be terminated immediately and provide $10 million which is to be used only for termination costs.

Reduction in Force

Continued from front page

training on October 5 in preparation for giving out notices. This training included how to effectively present the notices, as well as how to help the employee get the services he/she needs.

In San Diego, after supervisors handed out notices, the Employee Assistance Program (EAP) counselors were called in to assist employees in dealing with the layoffs. National Resource Consultants (NRC), the division's EAP provider, was on-site at Kearny Mesa and Plant 19 to provide their services on both October 6 and 7. All employees, whether they received notices or not, were able to take advantage of the sessions.

Outplacement orientations for all RIF employees were held October 8 and 13. Drake Beam Morin, Inc. conducted Career Continuation workshops focusing on skills assessment, resume writing, and counseling on October 14 and 15. In addition to these services, RIFed salaried and hourly employees can take advantage of the resources available at the Career Transition Center. Each employee is given 40 hours to look for other work during the 60-day transition period.

Through these trying times, employees should look toward the future. "Employees need to focus on the positive. Everyone should be looking at what changes and process improvements can be made. This employee reduction is going to force all of us to look at what can be done to make us more competitive," Dr. Roberta Baade said.

John Thacker, division vice president – Quality, had this to say: "Our requirement to downsize increases the importance of and need to accelerate the improvement of our processes and increase our personal contributions to the quality of our products and service. We can, we have, and we must continue to find ways to meet the tough challenges we face. Only as a team, working together, will our best efforts be sufficient."

"We are in tough times, but we must remember to be patient and kind to each other," Mike Wynne added.

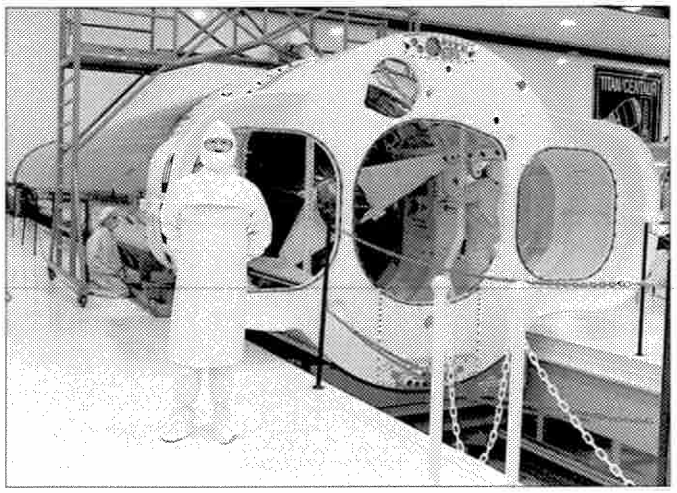
10/16/92

New Life for Used Garments

The following article appeared in the September 1992 issue of Clean Rooms *magazine, "the magazine of contamination control technology." Portions of it are reprinted below with permission from the publisher. In the article, GDSS has been recognized for its recycling program. The success of this program reflects the outstanding support of the division's employees. Thank you!*

General Dynamics Space Systems Division recently implemented a program that keeps their Tyvek clean room garments out of the local landfills while generating a modest income for the company.

The garments are used in the 131,00 square foot Class 100,000 clean room where Atlas/Centaur and Titan/Centaur satellite launch vehicles are manufactured. Personnel assigned to the clean room use reusable nylon garments, but those whose tasks require that they enter the clean room occasionally use Tyvek clothing. No Tyvek garments are used in any areas associated with chemical or adhesive processes. The number of employees wearing the Tyvek garments varies from week to week.



Tom Edwards of Facility Services stands in the Kearny Mesa Building 5 clean room, modeling one of the Tyvek garments currently recycled by the division.

The Space Systems' recycling program manager, Tom Edwards, explains that used Tyvek garments are shipped to Miller's Precision Enterprises (MPE) of Schererville, IN, which reprocesses Tyvek disposable garments used in clean rooms and clean areas. MPE buys garments for reprocessing from all 48 contiguous states, and does some international trade as well. Any company using a disposable garment in a clean area is a candidate for recycling.

MPE sells the used garments to other industries in which the cleanliness standards are lower than Class 100,000. They currently work only with garments that have not been exposed to hazardous substances. The Space Systems Division has a two-year agreement for MPE to pay for all shipping costs and for the garments on a per-piece basis, and is not locked into a minimum or maximum shipment each month. Garments in many different configurations are purchased by MPE, including coveralls, lab coats, hoods, and boot covers made of Tyvek.

At the end of each month, a statement is provided to the Space Systems Division. On the statement is a count for received, accepted, and rejected garments for the previous month. Included with this statement is salvage value reimbursement for the individual garments and any freight charges incurred by the Space Systems Division as a result of shipping the garments to MPE.

How the Program Works

The recycling process is set up in the changing room or near the clean room or clean area that is using the disposable Tyvek garments. Collection containers are located in the changing room or outside the clean room. When the employees finish using the clean room garments, they are disposed of in these collection containers instead of the trash.

These containers are then shipped to MPE. The emptied containers are returned to the clean room at MPE's cost. The time between shipments varies. Sometimes garments are shipped once a week, and sometimes they are shipped every three months.

When MPE receives the shipping containers, the garments are processed, sorted, quality checked, folded, and boxed for resale. The processing is a proprietary wash cycle that cleans and disinfects each garment. The garments are then dried and sorted by item (coveralls, boot covers, lab coats, etc.). Each garment is then individually checked for holes, tears and other irregularities. Garments with rips, tears, or holes of more than six inches; garments that are stained; or garments with wear patterns at standard stress areas are rejected.

The rejected garments are baled and sent overseas, where they are melted down to recover the polyethylene for reuse. The quality control accepted garments are boxed by item according to size for resale to secondary markets. The garments are not processed for reuse in clean rooms or clean areas.

General Dynamics Space Systems Division's first shipment of Tyvek clothing consisted of 912 pieces, which saved nine cubic yards of landfill space.

AC-71 Failure Review Update

Centaur engine icing scenario simulations show the same data anomoly seen in both the AC-70 and AC-71 failures. The scenario was set up to replicate the failure of a check valve in the purge line nearest the hydrogen (LH2) fuel pump. The Failure Oversight Board is now investigating the check valve's quality characteristics, and hopes to identify relevant corrective actions for this potential failure mode soon.

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SLC-3E Project

Continued from front page

On August 3, GDSS submitted a firm proposal for SLC-3E GSS Activation and Integration to the U.S. Air Force, our customer for the launch site modification and activation activities. Approval from the customer to proceed with the project retains Atlas launch capability at VAFB following the completion of the Atlas E program. Only four Atlas Es remain, with the final launch expected in 1994 or 1995.

GDSS is in the process of competitively selecting a Facility Design/Build subcontractor for all site facility design and construction work. We expect to complete the subcontractor selection by November, to support final contract negotiations with the U.S. Air Force.

SLC-3E modification will accommodate the Atlas II family, presently launched into equatorial orbits from Cape Canaveral Air Force Station, FL. Launching from Vandenberg provides payload delivery services to polar orbits, adding to our launch options offered to customers.

Although our proposal does not include an order for an Atlas vehicle or launch services for the first West Coast launch, completion of site activation requires these supporting activities, and we expect the U.S. Air Force to take these actions next year. We anticipate that the U.S. Air Force and other government agencies will require Atlas II launch services from VAFB several times per year.

Modification and activation of SLC-3E GSS is expected to take approximately four years from the date of customer authorization. Projects such as this assist in increasing our division's stake in the launch vehicle market now and into the future.

GDSS Blood Drive
November 11 & 12

More information on this event in the next issue of the *Orbiteer!*

A Message on Quality

By now, you all should have received your National Quality Month package containing a copy of the "Focus on Quality: A Report to Employees." We hope that you have enjoyed reading this report that was designed to communicate the success stories of our division to you, the team members who made them all possible.

The intent of the report was to send a powerful, positive message to all of you that continuous improvement and teamwork are the keys to improving the quality of our products and our services to our customers.

We hope that you can see a little bit of what we all do through the experiences and feelings of those interviewed. Most importantly, we hope each of you understands that you do make a difference.

We truly believe that there is no better time to focus on quality than now – today and every day.

John A. Thacker
Division Vice President – Quality Assurance

Election Day Approaches, Voting Procedures Outlined

Election Day, November 3, is rapidly approaching. Every U.S. citizen over the age of 18 has the right to vote. There are a few things that must be done before you can place your vote, however.

The deadline to register for the vote has already passed. But if you are registered, you should be receiving a sample ballot in the mail any day. This ballot is particular to the area in which you live, specifying which candidates represent your district, along with other issues.

According to Sally McKenna of the Registrar of Voters, "Voters should go to the polling place listed on the sample ballot." This place is set up to handle your area's ballot, and is the only one that will let you vote there. If you have not received your sample ballot by October 26, contact the Registrar of Voters office at 565-5800.

You can also take the opportunity to vote by mail instead of going to the polls. The last date you can apply for the mail-in ballot (also referred to as the absentee ballot) is October 27. A mail-in ballot application is provided on the last page of your sample ballot. Mail-in ballots are also available at the Registrar of Voters' Kearny Mesa office located at 5201 Ruffin Road.

All mail-in ballots are due by November 3, the day of the election. For further information concerning voting, contact the Registrar of Voters at 565-5800.

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

October 30, 1992

Focus on Government

Senator Speaks on Saving the U.S Space Launch Industry

According to Charlie Lloyd, division vice president and managing director of GD Commercial Launch Services, government regulations directly affect our competition in the space launch vehicle industry. Without advocates in the U.S. Congress, our government could enact policies that would actually hurt our standing in the marketplace.

On October 5, Senator Jay Rockefeller (D-WV) spoke to the members of the U.S. Senate on "Saving the U.S. Space Launch Industry." His speech was recorded in the Congressional Record, and excerpts are reprinted below.

There should not be any question that the space launch industry embodies critical technology; indeed the entire aeronautics sector is generally put on that list, not to mention the many electronics-related technologies that are key parts of the launch process. The establishment of the U.S. commercial space launch industry was encouraged and fostered by administration and congressional actions over a long period of time.

Beyond its economic and technological importance, it is also an industry with a very special set of economics, characterized by very high costs and very low sales. Launching satellites is expensive, and with less than a dozen launches per year worldwide, it is difficult for individual companies to survive if they cannot do a reasonable number of launches each year and recover their costs on each launch.

Therefore, to maximize its viability, the U.S. launch industry must be able to compete effectively in the international market and not limit itself to domestic launches. But this requires a system of trade rules which must be negotiated and subsequently enforced by the United States Government because of the dumping of launch services that is rampant in this industry, largely by the Chinese and the Russians. Unfortunately, actions have allowed our trading partners to violate their international obligations and thereby undermine the U.S. industry...

"... the U.S. launch industry must be able to compete effectively in the international market and not limit itself to domestic launches."
– Senator Jay Rockefeller

Adding to the difficult situation the U.S. launch industry faces internationally is the fact that member nations of the Commonwealth of Independent States (CIS) are also attempting to enter the space launch market, once again with the unfair advantage of government subsidization...

The continuation of dumped launch services that undercut market pricing will

Please see **Senator** *on back page*

GDSS Wins EPA Award

The Environmental Protection Agency (EPA) recently presented Space Systems Division with the 1992 Stratospheric Ozone Protection award. The EPA selected GDSS and 13 other businesses in an international competition for this prestigious award.

GDSS won the award for our drastic reduction in the use of ozone-depleting chemicals in precision cleaning, which accounts for about 95 percent of the division's total use of these chemicals. Since 1990, GDSS has eliminated the use of CFC-113 (such as DupontFreon) in precision cleaning, in addition to cutting the use of 1,1,1–Trichloroethane (TCA) by 75 percent in all processes. The division plans to eliminate all uses of TCA by the end of 1993, well ahead of all regulatory deadlines.

Technicians ensure critical components are processed to meet precision cleaning specifications.

This achievement is the product of a partnership between the employees of Cost Center 761-08 located in Kearny Mesa Building 5 and the Precision Cleaning Action Team, comprised of Jon Duke, Environmental Resources Management; Charlie Kropp, Materials and Processes; Michelle Won, Manufacturing Engineering; Glenn Asperin, Precision Cleaning; and Terry

Please see **EPA Award** *on back page*

GDSS Blood Drive & Health Fair – November 11 & 12

GDSS To Establish Blood Reserve Fund

The Health Services department at GDSS is working to establish a new Blood Reserve Fund for the division. This fund is similar to a savings account.

By maintaining a minimum of 20 blood donations (credits) in the fund at all times, all GDSS employees and their immediate family members can be protected by replacement credits should they need blood. These replacement credits help to reduce the patient fees for whole blood and red cell units used during hospitalization. The remaining fee for blood would be billed by the hospital to the medical insurance carrier.

Most medical insurance plans do not cover the cost of blood. One unit of whole blood costs approximately $98, plus associated processing fees. Over 400 units of blood are needed per day to supply the 31 hospitals in the region.

If you or your family requires blood transfusions during hospitalization and wish to access credits through the GDSS Blood Reserve Fund, please contact Cynthia Fink at 74512 or Joan Stephan at 38149. They will need the patient's full name, the hospital in which blood was used, and how much blood was used, if known. GDSS Health Services will send a written request to release the appropriate number of credits from the San Diego Blood Bank.

You can start donating toward this special fund November 11 from 8 a.m. to 1 p.m. and November 12 from 10 a.m. to 3 p.m., when GDSS sponsors a blood drive at the Kearny Mesa Fire Station.

San Diego Employees Invited to Health Fair

In conjunction with the GDSS Blood Drive, the CRA Wellness Services group will be holding a Health Fair at the Kearny Mesa Fire Station from 8 a.m. to 1 p.m. November 11, and 10 a.m. to 3 p.m. November 12.

The Health Fair will include a variety of free screenings, such as those for cholesterol and vision. Additionally, there will be booths with information on a wide range of subjects, including AIDS education and weight management.

Door prizes and free snacks will also be available for attendees, so be sure to stop by.

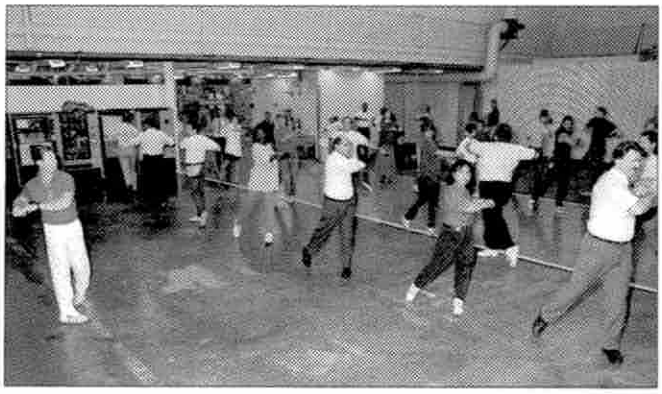
Plant 19 Stretching Program Designed to Reduce Injuries at Work and Increase Morale

Several Plant 19 employees take the opportunity each morning to participate in a new program designed to reduce the number of injuries and increase morale in the workplace. The Injury Prevention Stretching Program was initiated at Plant 19 a few months ago for both salaried and hourly employees in Building 3.

This program is tailored to Plant 19 site needs and includes a 15 minute full-body stretching program that takes place weekday mornings between Building 2 and 3. Each morning at about 8:45 a.m., employees come to the area to participate in this voluntary program designed by the staff of CRA Wellness Services.

"We create a sense of ownership with the program," Wayne Borin, managing director of the CRA, says. " Employees are involved in naming the program and selecting the music they listen to while stretching."

After a period of time, a few employees are selected from the group to lead the daily stretches. At Plant 19, A.J. Nathan, Jim Brown, Mel Resurreccion, and Margaret Miller do so.



Wayne Borin (left) of the CRA leads a group of Plant 19 employees in a morning stretch as part of a program to reduce workplace injuries.

Plant 19's management support this program, which was initiated at Plant 19 in August by Bob Gross, Plant 19's Safety representative. This program originated a few years ago at the General Dynamics Electronics Division's Materials Acquisitions Center in Miramar.

Get Wild! Volunteer at the 1992 Festival of Lights

The San Diego Wild Animal Park is looking for volunteers to help during the 1992 Festival of Lights held December 11-30. The park needs people to work from 4:30 p.m. to 8:30 p.m.

There is no age limit for those willing to volunteer, so bring your kids. Every volunteer will receive a light holiday dinner and one ticket to return to the Wild Animal Park (valid through May 26, 1993).

If you are willing to help out, please contact Pat Barker, the Wild Animal Park's Special Event manager, at 738-5012 to sign up.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week Ending October 17, 1992)

Cape Canaveral	553
GD Space Services	65
Hammond	130
Harlingen	264
Huntsville	27
San Diego	3,093
Vandenberg	210
Other Offsite Locations	52
TOTAL	**4,394**

10/30/92

Don't Forget to Vote November 3

Voting polls across San Diego will be open from 7 a.m. to 8 p.m., November 3 for all registered voters to place their vote in this year's election.

According to the California Elections Code, employees who do not have sufficient time to vote outside of the normal working hours may be granted necessary time off to vote. This time may not exceed two hours and prior approval must be given by your supervisor.

Any time an employee uses during working hours must be taken at the beginning or the end of the shift, whichever allows the most free time for voting and the least time off from work.

Voters must vote at the polling place listed on the sample ballot sent out by the Registrar of Voters in early October. Mail-in or absentee ballots need to be turned in to the Registrar of Voters by November 3. For more information on voting regulations, contact the Registrar of Voters at 565-5800.

Transportation Demand Survey Due November 6

Supervisors will distributed the annual Transportation Demand Survey to employees during the week of November 2. This survey is required by the Transportation Demand Management (TDM) Ordinance adopted by the City of San Diego in 1990.

This required survey is designed to gather information used to assess employee commuting needs. All employees are asked to return surveys to their supervisors by November 6. If GDSS does not receive at least 70 percent of the surveys from employees, the division will have to conduct the survey a second time in order to comply with the TDM Ordinance.

The TDM Ordinance is designed to reduce traffic congestion and improve air quality by decreasing the number of employees who drive to work alone. By completing the survey, you are not obligating yourself to ridesharing. Any questions concerning this survey should be referred to Ken Gowen, division transportation coordinator, at 44800.

A Lot More Knowledge. *Congratulations to the employees pictured above, who, through hard work, determination, and assistance from the tuition reimbursement program, successfully earned their bachelor's or master's degrees.*

Left to right: *Ken Gowen, manager of Organizational Effectiveness; Peter Stubner, MS Aerospace Engineering; Ron Tabor, MS Electrical Engineering; George Vicek, MBA; Cinda Kemper, MBA; and Paul Doty, BA Management.* ***Not shown:*** *Sheryl Fehr (Vandenberg AFB), MS Engineering Management; Bob Quisenberry, MS in Administration; and Reid Windle (Cape Canaveral AFS), MBA.*

Inside Space ...

From Community Relations – **Space Camp scholarship applications will be available November 6** for children of GD employees, grades 4 through 12. Look for more information on this exciting opportunity in the next issue of the *Orbiteer*.

From Point Loma Federal Credit Union – **Effective October 31, the Automated Teller Machine (ATM) located in the lobby of Kearny Mesa Building 2** will no longer be available for use due to a decrease in usage by company employees. GDSS employees can continue to use the ATM located in the lobby of KM Building 24. The credit union is presently evaluating whether to install an ATM at Plant 19.

From Public Affairs – **The office of Public Affairs and Community Relations** has moved to Building 24, fourth floor, column 23N. This organization can be reached at 43600, Mail Zone K4-5502, or via FAX at 974-3609.

From USO Campaign Headquarters – **The GDSS 1992 USO Campaign raised over $35,000.** GD Corporate Headquarters will match this contribution, bringing the total to over $70,000. Roger Dunn, USO division coordinator, and Mike Iverson, USO staff coordinator, thank everyone for supporting this campaign.

From the CRA Players – **The CRA Players present their latest production, "The Players' Fall Revue."** The show runs November 6, 7, 13, and 14 at 8 p.m. in the CRA Clubhouse. Tickets are $4 in advance at the CRA Emporium or from any club member, or $5 at the door. Come let your favorite coworker entertain you in an evening of talent and fun. Contact Bret Kudlicki at 77669 for more information.

From the GDSSD San Diego National Management Association – **Mark this date now! The annual Holiday Dinner Dance will be held December 11** at the Marriott Hotel and Marina. Hosted by Bob Di Nal, division vice president – Research & Engineering, this event promises to be a fun one. Look for more information in upcoming issues of the *Orbiteer*.

Senator

Continued from front page

seriously disadvantage our companies' ability to compete and survive. If they do not survive, then the U.S. Government will become dependent on foreign launch providers...

The administration must recognize now that an industry of great importance to our national security and economy is in grave jeopardy... The administration should seriously examine whether United States trade and foreign policy interest are being adequately protected by its recent failures...

It is past time for the administration to reevaluate its actions and do a better job of balancing U.S. national security and economic interest with our desire to cooperate with international partners and assist developing countries. The free world will not benefit if, in the long run, U.S. national security and economic strength are undermined. I urge the administration to stop using the U.S. launch industry as a pawn and to start recognizing it for what it is – an essential U.S. industry which is vital to U.S. national security and which provides thousands of quality jobs to Americans.

If you would like a copy of Senator Rockefeller's complete statement, please contact the Orbiteer *at 73234.*

EPA Award

Continued from front page

Spain, Facility Services. We have maintained our critical quality standards while becoming a recognized industry leader in eliminating ozone-depleting chemicals from our processes.

John Hoffman, director of the EPA's Global Change Division, said, "These award winners are the best of best. They innovate, they persevere, and they succeed in eliminating the chemicals that are destroying the Earth's ozone layer."

The Stratospheric Ozone Protection Award represents a significant contribution to the global environment in which we can all take pride. This is definitely an example of exceptional cross-functional team work!

Stephen O. Anderson, director – Technology Transfer and Industry Programs, presents an EPA award to Michelle Won of GDSS Manufacturing Engineering, Charlie Kropp of GDSS Materials and Processes, and John Grando, GDSS Kearny Mesa Building 5 Site director.

GDHF Receives MBDA Award

By Noelia Gutierrez, Harlingen Orbiteer *reporter*

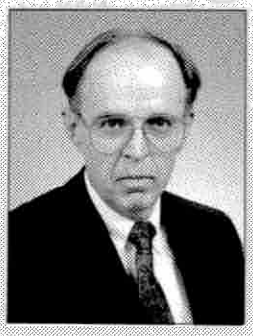
Joe Lira (left), National director for the Minority Business Development Agency, presents the MBDA award to Paul D. Clark, Harlingen Facility Material manager.

On behalf of the GD Harlingen Facility, Paul D. Clark, GDHF Material manager, accepted the Minority Corporate Advocate of the Year Award on September 9 at an awards luncheon sponsored by the Minority Business Development Center – Brownsville and the Minority Business Development Agency – Dallas Regional Offices.

GDHF was recognized for efforts in working with minority businesses as well as the number of dollar awards given to minority businesses by the site.

The award was presented by Joe Lira, National director of the Minority Business Development Agency – U.S. Department of Commerce. The awards luncheon was a key event of Minority Enterprise Development Week 1992, held in Brownsville, TX.

Gibb Named CCAFS Site Director



Rich Gibb

Rich Gibb, former GDSS Harlingen Facility Site director, was promoted to division vice president and site director – Cape Canaveral on September 14.

He now reports directly to Mike Wynne, division president, and will play a key role in the division as we continue to integrate production and launch improvements at all sites. The continuous process improvement initiative at CCAFS will be concentrated under the leadership of Rich Gibb.

"The truly outstanding results at the Harlingen Facility the last few years, recognized by our Air Force and Martin Marietta customers in particular, are a direct tribute to Rich's leadership and the Harlingen team," Mike Wynne said in a division notice announcing the promotion.

Rich Gibb joined General Dynamics in 1979 as part of the Centaur Upper Stage Launch Vehicle program at the Convair Division. He became site director of the Harlingen Facility in 1991, when the facility was transferred to GDSS from the GD Services Company.

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ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

November 1, 1991

An Interview with Fran Richardson

Sexual Harassment: It Will Not Be Tolerated in Space Systems Division

Fran Richardson, the director of the division's Business Ethics and Equal Employment Opportunity programs, is dedicated to all aspects of her job. She has definite opinions and enforcement policies, and the elimination of sexual harassment in the workplace is at the forefront of her efforts.

The following is an interview recently conducted by the *Orbiteer* with Fran about this problem.

Orbiteer: *Would you please define sexual harassment for us?*

Fran: I would be glad to. Sexual harassment is unwelcome behavior of a sexual nature. This includes sexual advances, requests for sexual favors, and other physical and verbal conduct of a sexual nature.

Orbiteer: *Can you give us some more examples?*

Fran: This would include making submission to such conduct a condition of employment, making employment decisions about individuals based on submission or acceptance of sexual advances, and creating an intimidating, hostile, or offensive work environment among others. I would like to emphasize that sexual harassment is a violation of federal law. Title VII of the 1964 Civil Rights Act specifically prohibits such behavior.

Orbiteer: *Is there a difference between hazing or teasing and sexual harassment?*

Fran: Hazing is focused on the employee's behavior while sexual harassment is directed at the employee's sex. However, if the teasing is derogatory of the employee's sex, then the behavior is definitely sexual harassment.

Orbiteer: *What if the behavior is not specifically aimed at a particular individual?*

Fran: If unwanted sexual behavior is occurring in an employee's work environment, then it is sexual harassment even if not directed at him or her. That would include pictures, cartoons, calendars, or other such items that are sexually oriented.

Orbiteer: *What procedures should an employee follow if he or she feels they have been sexually harassed?*

Fran: Anyone being sexually harassed should inform the harasser they do not approve of their behavior.

Fran Richardson (left) director of Space Systems' Business Ethics and Equal Employment Opportunity programs, confers with Dr. Roberta Baade, division vice president of Human Resources, on the division's sexual harassment policy.

Orbiteer: *What if that doesn't do any good?*

Fran: In that case, they should promptly report the facts of the situation to their supervisor. The supervisor who receives such a complaint should attempt to resolve the problem. If that cannot be done, then the supervisor should give me a call. Any complaint that is passed on to me will be given an immediate, confidential investigation. If I find violations, I will take the appropriate corrective actions as quickly as possible.

Orbiteer: *What if the person isn't comfortable about reporting it to their supervisor?*

Fran: Then call me directly. I guarantee confidentiality and prompt attention in the matter.

Orbiteer: *Do you have any closing comments?*

Fran: I would just like to state that it is official Space Systems Division policy that sexual harassment will not be tolerated in our workplace. The division wants the working environment to be free of discrimination, intimidation, and sexual harassment for all employees. Persons violating this policy will be subject to immediate and appropriate disciplinary action that can include termination. I urge all my fellow employees to be considerate, respectful, and polite toward each other. This will create the type of environment in which we can all be happy and prosper.

Inside Space ...

The holidays are here! A **Holiday Craft and Bake Sale** is being held on Friday, November 1 from 4:30 p.m. to 7:00 p.m.; and on Saturday, November 2 from 10:00 a.m. to 5:00 p.m. It all takes place at the CRA Pavilion with more than 50 booths run by GD employees and families. They'll be featuring jewelry, baked goods, ceramics, and other craft items. . . . There are three more fun trips available through **CRA Travel** in November. The Brawley "Cattle Call" Rodeo is Saturday, November 9; a "Cruise Party" to find out about 1992 cruises to the Caribbean, Panama Canal, and Alaska is scheduled for November 12; and if you believe in the saying "Shop 'til you drop", you'll love the trip up to the Los Angeles Garment District on November 23. Call 38248 for details. . . . The CRA Players production of *Laura* not only stars several Space System employees, but the play is directed by a couple, **Jim Bushway** the director and **Jenni Elion** the assistant director. The play, an exciting murder mystery, will be presented at the CRA Clubhouse. Call **Monica Van Der Werf** at 41820, for ticket information.

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

Bernie Kulchin, Division Vice President, Human Resources, 34 years

Don Moore, Division Vice President, Quality Assurance, 7 years

Russ Thomas, Division Vice President and Program Director, Titan/Centaur, 35 years

Share Bear Coordinators Ready for the Holiday Season

Carolyn Wilson of Business Development, who is heading up Space Systems Division's Share Bear program (formerly Angel Tree) to provide gifts to abused and neglected children, has announced the names and departments of coordinators for this year's effort.

If you wish to participate or want more information, please contact the Share Bear coordinator for your department. Their names and extensions are:

Suzanne Beggs — Production, 44393 or 23803

Rita Bermudes — IRM, 77557

Marilyn Bosworth — Quality Assurance, 44040

Brian Brown — Finance, 41612

Bob De Cort — Titan/Centaur Program, 78291

Pilar Dunn — Mission Integration, 38131

Patti Greener — Advanced Launch Systems, 67001

Norma Hunter — Material, 43001

Roxanna Khan — Research & Engineering, 38187

Kathy Kendrick — Human Resources, 44104

Charlotte Murray — Commercial Launch Systems, 64045

Carol Palmer — Atlas Program, 77456

Doris Rosales — Energy Program, 67766

Patti Shelanski — Business Development, 43896

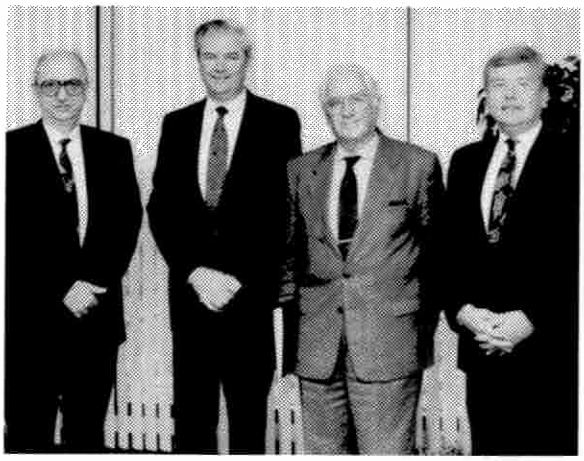
Monica Van Der Werf — Contracts & Estimating, 48120

Carolyn says that the Share Bear program is shaping up nicely. She looks forward to a very successful effort to bring gifts to a lot of children who know very little happiness in their lives.

SPACE SYSTEMS EMPLOYMENT FIGURES
(Week ending October 18, 1991)

Cape Canaveral	562
Harlingen	420
San Diego	3255
Vandenberg	258
Other Offsite Locations	88
TOTAL	4583

GD Space Systems Visited by the Italian Space Agency



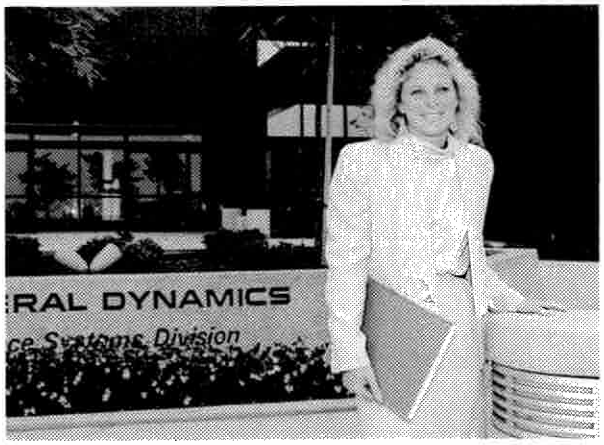
Professor Luciano Guerriero, president of Agenzia Spaciale Italiana (ASI), the Italian Space Agency, and Professor Carlo Buongiorno, director general of ASI, recently visited Space Systems. The division has a contract with the Italian Space Agency to provide launch services for the X-ray Astronomy Satellite (SAX). The distinguished visitors were hosted by General Manager Michael Wynne and Division Vice President of Business Development Carey Riley. Shown in the photo from left to right are: Professor Guerriero, Michael Wynne, Professor Buongiorno, and Carey Riley.

11/1/92

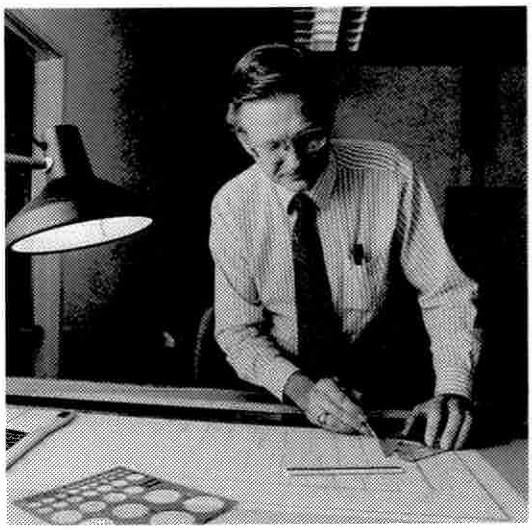
Great Space Systems Teams

Facility Services Maintains the Division Working Environment

Kelly Harris stands in front of Building 24 where she was a member of the team that did the interior design layouts.

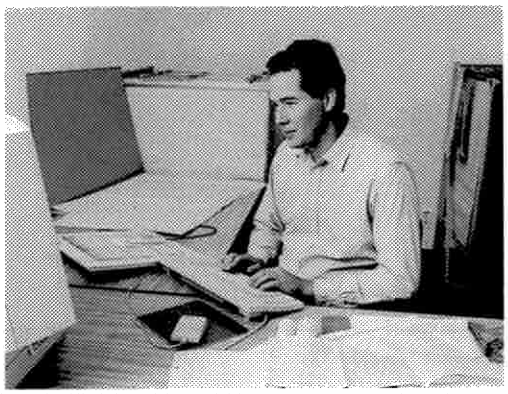


The intrepid Facility Services team pauses long enough for their photo to be taken. Shown from left to right in the back row are: Fred Powell, Kathleen Byrne, Mark Huston, and Doug Holladay. Kelly Harris and Peggy Little are in front.



Fred Powell, architect in Facility Services, redesigns a work area for the Atlas Program Office.

Peggy Little prepares a plotter to print floor layouts.



Doug Holladay uses a computer-aided- design system to update a layout for Building 24.

The purpose of the Space Systems Division *Orbiteer* is to report the way teams of employees work together, to show the superior products they produce, and the excellent services they provide.

Office Planning is a many-faceted function of Facility Services that employees constantly rely on. However, most division personnel have very little understanding of the varied and important services provided by these personnel.

Office Planning Services include long-range space planning, asset management, budget forecasting and tracking, scheduling, and project management for office rearrangements and new construction.

They also negotiate and maintain all offsite leases that include not only local sites (Century Park, Balboa, and Daley Center), but Colorado Springs, Los Angeles, Houston, Albuquerque, and Huntsville, where Space Systems Division maintains small offices.

Managing a grand total of 753,000 square feet of constantly changing office space used by 2,986 office employees, calls for large amounts of interfacing, attention to detail, foresight, professional expertise, and diplomacy.

County to Collect Hazardous Household Waste at Kearny Mesa

The San Diego County Department of Health Services will collect hazardous household waste in the Kearny Mesa parking lot on Saturday, November 16 from 9:00 a.m. to 2:00 p.m. This collection provides a safe opportunity for people to get rid of items such as aerosols, barbecue lighter fluid, batteries, insecticides, motor oil, solvents, and other poisonous, toxic, flammable, corrosive, or reactive materials. If you have hazardous waste at home, bring it in and have the county dispose of it properly and safely.

If you have any questions about household hazardous material, call San Diego's Household Hazardous Materials Program at 338-2267. Further information is available from Joe Hess at 43372.

Major Weld of Atlas IIAS Test Tank Completed

Through a lot of hard work, attention to TQM methodology, and that ol' Space Systems Know-How, the Atlas IIAS Test Tank was finished at Plant 19. With the successful completion of the task, the tank was shipped to Sycamore Canyon in October.

RIGHT: The Atlas IIAS Test Tank Aft Bulkhead is ready for loading into Major Weld. From L to R are: Dan Morales, Mark Wheelus, Rich Horne, Dan Walters, Randy Thomas, Vu Le, and Todd McClean.

BELOW: Pictured here is the Aft Bulkhead loaded into Major Weld, ready for mate with the tank. From L to R are: Norm Kohls, Thomas Crosby, Bill Hoover, Charles Torres, Angel Busto, Jay Morgan, Dan Morales, Steve Richardson, Todd McClean, and Dave Hoth.

General Dynamics Plans to Sell Cessna Aircraft

Bill Anders, chairman and chief executive officer of General Dynamics, announced the corporation's intention to put Cessna Aircraft on the market.

"The proposed divestiture of Cessna furthers our strategy to focus on our core defense businesses and to build the increased financial strength and flexibility necessary to adapt to the new realities of the defense industry," Mr. Anders said. He added that although Cessna is the world's leading supplier of general aviation aircraft, GD shareholders are not realizing the full value of the operation because it is overshadowed by the corporation's multibillion-dollar defense business.

Selling Cessna will reduce GD's long-term and short-term debt by $240 million. The corporate ratio of total debt to total capital will decline from 40% to approximately 35%. The consolidation will reduce total long-term liabilities by $545 million.

Mr. Anders also said, "Cessna is a world-class operation, and Russ Meyer, Cessna's CEO, and his team are proven winners. We and they view today's announcement as the start of an exciting and highly rewarding opportunity for Cessna's employees and customers alike."

Latest Info on DSD Switch to CSC

DSD Has "Focal Points" for Questions about CSC

A substantial portion of Data Systems Division (DSD) will be purchased by Computer Sciences Corporation (CSC) as of November 1, 1991. Many activities are under way to shift from DSD to CSC, and DSD's primary goal is for this change to cause as little disruption as possible to its customers' business.

In the weeks to come, communication between DSD and its customers will become increasingly critical. DSD has designated account representatives for each customer division to act as focal points for sharing information and gathering feedback from customers.

If you have any questions or suggestions about the transition, contact the DSD account representative for your functional area. For more information, call the CSC Customer Hotline at 33867.

DSD Classes Will Continue under CSC

DSD Training and Development has received several phone calls from Space Systems employees worried that their class would be cancelled. The staff of Training and Development wishes to assure everyone that they are proceeding with business as usual, meaning that they are cancelling no classes, and after-hour training will continue to be offered on a regular basis.

If you are interested in further information, contact Training and Development at 33930.

Presently, the following free classes are available at the places indicated:

Daley Center — Third Floor Conference Room: Macintosh Integration, November 20.

Kearny Mesa Building 25 — Exact locations to be announced to those who RSVP.: Effective Communication, November 5; Macintosh Integration, November 21.

All training will take place from 11:30 a.m. to 12:15 p.m. Bring your lunch. Those interested should contact Paul Plummer at 33929.

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION
December 11, 1992

• *GDSS 1992 Goals* •

Third Quarter Performance

Information provided by Division Planning

As 1992 winds down, it is time once again to grade the division's performance against the goals developed at the beginning of the year and to summarize a few of the division's recent events.

Although the August 22 Atlas failure was a disappointment, it has not resulted in a detrimental setback because of the dedicated efforts put forth by all employees. In fact, the division has continued to perform well, and has met or exceeded many of the goals set for the year.

An important achievement this year was the demonstration of rate launch capability. Although the Atlas launch target of eight was not achieved, five Atlas vehicles were launched (Eutelsat, MLV II #1, Galaxy V, Intelsat-K, and MLV II #2) in about six months. Given a full 12-month period, these launches would represent a launch rate of 10 per year from Cape Canaveral Air Force Station. This rate launch capability will be important in 1993 as the AC-71 failure investigation board completes its analysis and we return to flight in the first quarter.

A major milestone achieved this year was the Air Force award to activate Space Launch Complex 3 East at Vandenberg Air Force Base. This contract, which commenced in October, is significant because it will provide the capability to launch the Atlas II family of vehicles from SLC-3E, continuing our presence on the West Coast. Although this initial contract does not include any launches, completion of site activation will require the demonstration of launch capability.

Many months of dedicated work culminated with the submittal of the Medium Launch Vehicle III proposal to the Air Force on November 16. If awarded, this block buy of 25 Atlas vehicles will extend beyond our current 62-vehicle program and into the 21st century. A decision on this contract is expected in early 1993.

The division's impressive trend of launch sales continued into the third quarter with the exercise of MLV II #9 and UHF #5 options. This brings the number of launch awards for 1992 to seven, with the goal being 10.

In November we delivered Titan/Centaur 12 to the Martin Marietta

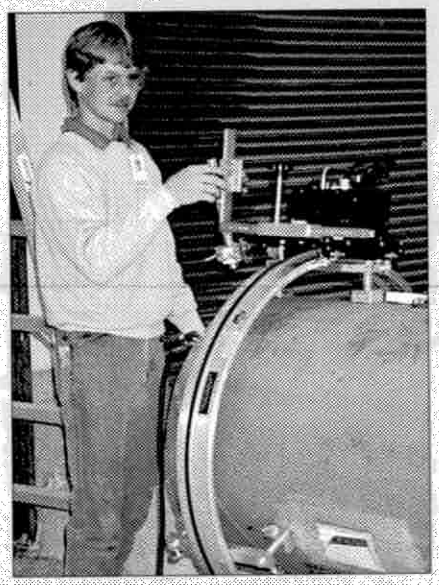
Please see **Performance** *on second page*

Energy Project Starts at GDSS Harlingen Facility

By Noelia Gutierrez, Harlingen Orbiteer *Reporter*

The employees at the GDSS Harlingen Facility recently began production on vacuum vessels for shipment to the GDSS Hammond Facility. These 50-foot-long, 26-inch-diameter, 7,200-pound vessels are "stuffed" with the magnet assembly and wrapped in multi-layer insulation (MLI) blankets to become the dipole magnets used in the Superconducting Super Collider.

Oscar Stiles, Don Crow, and Julio Santana examine port ring support holes that Julio cut in the vacuum vessel.



Donald Wilt is shown setting up the tooling to trim the end of the vacuum vessel shell.

The Harlingen Facility has been contracted to manufacture 584 vacuum vessels and 584 sets of MLI blankets between December 1992 and mid-year 1995, with the possibility of manufacturing another 8,150 vessels between 1994 and 1998.

Vacuum vessels made at the facility will also be supplied to Westinghouse, Inc., in Round Rock, TX.

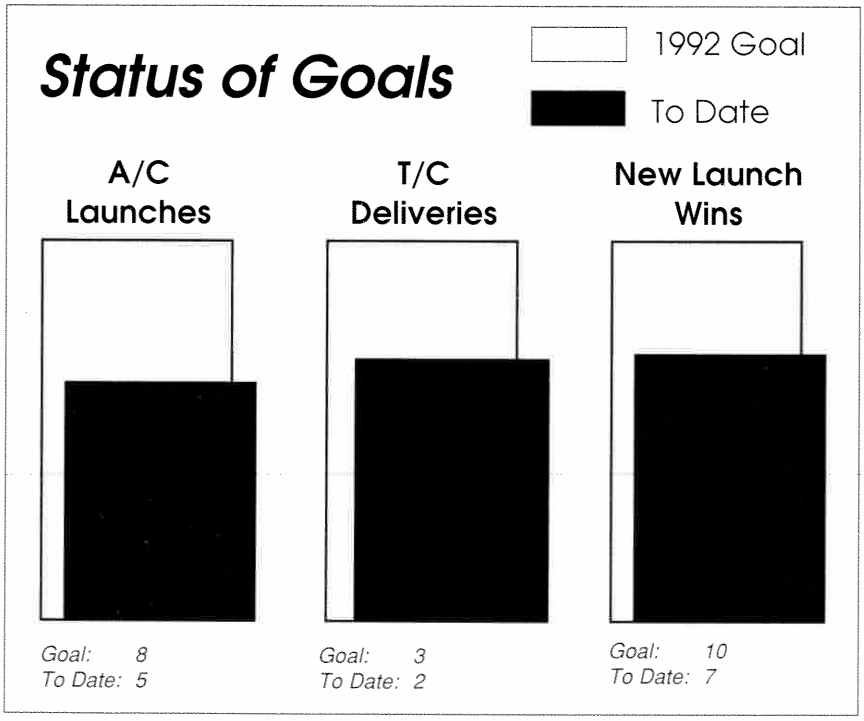
When completed, the SSC project will contain enough dipole magnets and other similar magnets to form two large 53-mile circles in an underground tunnel near Waxahachie, TX. This project represents an excellent business base for the Harlingen Facility with opportunities for a stable work force projected through 1998.

Third Quarter Performance

Continued from front page

Corporation, making this our second delivered vehicle this year. TC-15, which was planned to be delivered, will be delayed until the second quarter of 1993 due to the requirement of incorporating various new components. The Titan/Centaur office has also been busy with final negotiations for the Unified Payload Integration Services and Mission Peculiar Hardware contract, as well as preparation for a stretch-out to the existing contract for the current 15-vehicle Titan/Centaur program. In addition, Centaur Off-Line Processing Phase I tanking and facility area construction was approved by the Air Force.

The National Launch System program office received some bad news in September when funding for the program was terminated by the Senate due to budget pressures on both the Department of Defense and the National Aeronautics and Space Administration. Evidently, it was becoming increasingly difficult to allocate the $10 billion necessary to fully develop the program. However, in recent weeks a new program called "Spacelifter" has emerged with similar vehicle requirements and may evolve into another next-generation space launch vehicle program.



The Space Magnetics business area has also made great strides toward achieving its established goals. Much to the relief of the program office and the entire division, Superconducting Super Collider funding was reestablished to full-funding status in the U.S. Senate vote, enabling the division to proceed with its related SSC dipole magnet production contract.

Transition to the Hammond facility is now complete, and production of the first dipole prototype magnet began on October 3, ahead of schedule. In order to focus efforts in the energy area with the continued growth in business and further diversification in the customer base, Mike Wynne, division president, announced in November that Walt Robertson will be the new general manager of Space Magnetics.

Divisionwide process improvements continue to focus on quality, reliability, and cost-efficient operations and are key to achieving current and future goals. Overall, the division has performed quite well in 1992, with many of the financial targets being met, including the division's cash position. It is this 1992 performance, and efforts to improve this performance, that will enable GDSS to be the Best in Space.

New Division VPs Named

Robertson Appointed GM of Magnetics

Walt Robertson

Effective November 28, Walt Robertson was appointed division vice president and general manager of the Space Magnetics business area. He will report to Mike Wynne, division president.

Walt Robertson joins GDSS from Convair, where he was vice president of Aircraft Production for the MD-11 program. He joined General Dynamics in 1966. He has held positions at the Fort Worth and Electronics Divisions.

Dino Salvador, Hammond Site manager, and Dick Hora, Business Area manager, will report to Walt Robertson. Tom Baranouskas has been appointed controller of the Space Magnetics group, reporting to him as well.

Giles Joins Staff as Division Controller

Ron Giles was named division vice president and controller on November 7. He reports to Rich Corbin, our division's chief financial officer.

Ron Giles

Ron Giles joined General Dynamics in 1988. Since 1989, he was staff vice president of Corporate Internal Audit at the corporate office.

Prior to coming to GD, he worked for General Electric, serving in several managerial assignments including that of controller of GE's Lighting Systems Technical Products Division.

12/11/92

Senator Gore Stresses Space Priority

Focus on Government

As a follow-on article to the speech presented by Senator Jay Rockefeller (reprinted in the October 30 issue of the Orbiteer), Charlie Lloyd, division vice president and managing director of GD Commercial Launch Services, asked us to reprint excerpts from a speech given by Vice President-Elect and Senator Al Gore at the Goddard Space Flight Center on October 19.

"We are looking for continued support with the change in the administration," Charlie Lloyd said recently. "We are uncertain about what is going to happen, but are looking and hoping for more even-handed treatment."

...America is the greatest nation on Earth, but for more than a decade, our leaders in Washington have failed to invest in this country. They have failed to invest in American jobs, and they have failed to invest in the means to develop those new technologies that are needed to drive our national economy. ...

Our last surviving crown jewel is the American aerospace industry. As a source for technological innovation, it has far-reaching implications for every sector of the American economy. Indeed, it holds one of the keys to future prosperity of the United States. ... But this is not a time for false confidence. ... The footsteps of our rivals in Europe and Asia are getting louder and louder. ... The time when we could assume a continued American supremacy in aerospace is gone. ...

It is therefore crucial that the government begin to focus its efforts on preserving our aerospace industries. ... Probably one of the most crucial issues facing the space program today is the need to reduce the cost of launching payloads, whether they be military, scientific, or commercial satellites. Our only existing choices are the Space Shuttle, which currently costs more than $4 billion a year to operate, and decades-old technology in our fleet of expendable launch vehicles. The urgency of this problem is readily apparent to everyone associated with the U.S. space program. ...

...We must improve our ability to access space. In the near term, there are several small, affordable steps that will move us toward that objective. First, we must continue to improve the safety and reliability of the Space Shuttle. ... Equally important is the continuation of the Advanced Solid Rocket Motor program.

We also need to upgrade our existing fleet of expendable launch vehicles. The Titan, Atlas, and Delta are all derived from ballistic missiles that were originally developed in the 1950s. Since then, they have been considerably modified to improve their ability to launch satellites. But additional improvements are both possible and needed. ...

On several occasions, my colleagues and I in the Congress have advocated the creation of a small technology development program within NASA to upgrade our existing fleet of expendable launch vehicles. Yet, despite its modest price tag and strong support from NASA and industry, the Administration has refused to endorse our initiative.

"...We must improve our ability to access space."

I support the concept of developing new engine technologies for our expendable launch systems, as that will be the core of any future launch program. However, any decision to develop the next generation of launch vehicles must be based on cost-effective criteria with a clear concept of mission requirements in mind. ...

Today, as a result of Presidential policy, we have a situation where private American companies are forced to compete head-to-head with foreign governments who provide launch services. ... Neither the market for launch services nor our competitive position is secure enough to allow our government to make casual decisions about the future of our space launch industry. The emergence of competitors from non-market economies increases the opportunity for predatory pricing – the very same economic weapon that foreign countries employed in the 1980s to target and destroy the American manufacturing base. Our first priority must be to secure agreement from all parties on how commercial launch services will be priced and ensure that effective means of enforcement are in place to make such an agreement work. ...

Given the importance of our aerospace programs, well-conceived action is clearly needed. What can and should be done?

First, we need to make the space program more cost-effective and flexible. Spending more wisely in line with our established priorities will enable us to preserve jobs and ensure that the United States remains a leader in space.

We must start to focus our efforts on initiatives which will strengthen our space and aviation programs, and create new job opportunities in the aerospace and scientific communities. Priority should be given to the development of cost-effective and reliable launch systems, environmental monitoring systems, technologies for commercial aviation, and satellite communications technologies. ...

Secondly, Bill Clinton and I agree that we must move forward to complete development of the Space Station *Freedom*. This program will present the United States with unique opportunities for world leadership in science and technology. ... The Space Station will serve as an anchor for the aerospace industry, particularly during a time when highly-skilled defense workers are being displaced by cutbacks. During this period of declining defense spending, programs like the Space Station *Freedom* will help stabilize our nation's industrial base. ...

We also must continue to learn about other planets in our solar system. This knowledge will improve our understanding of our own world and stimulate advances in computers, sensors, image processing, and communications. And, although we cannot yet commit major resources to human planetary exploration, this dream should be among the considerations that guide our science and engineering. Because the entire world will share the benefits of human planetary exploration, the costs for any such projects should be borne by other nations as well as the United States. ...

We need leaders to get our economy moving again, who will work to create and retain high-wage jobs in this country. We need to replace the failed policies with new ideas and new energy, and we need leaders who understand the importance of space and aviation to our national well-being.

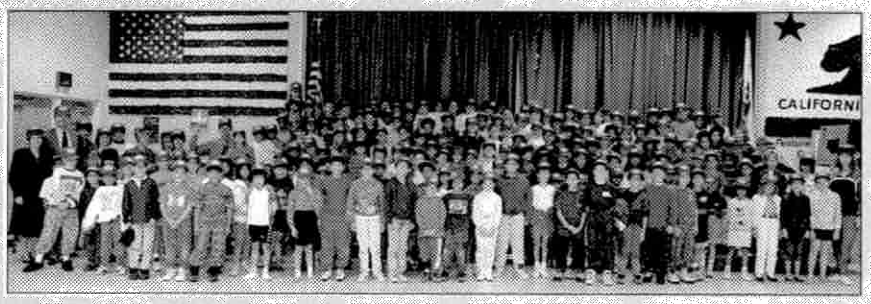
If you would like a copy of Senator Gore's complete statement, please contact the Orbiteer *at 73234.*

Elementary School Makes U.S. Flag for Space Systems Division Mail Room

On November 20, Mike Iverson, director – MRP II and IRM, personally thanked the third grade at Canyon View Elementary School, who made a flag for our mail room. The children received Atlas hats in appreciation of their hard work.

Over 180 students made the flag, which is similar to one that hangs in their multi-purpose room at school. The GDSSD NMA provided the materials for the flag.

Photo above: GDSS mail room and FAX room employees proudly display their flag. Pictured left to right: Mike Austin, David Vegh, Doug Zink, Steve Hajduk, Mary Like, and Cindy Balistreri. Not pictured: Dorothy Hobson.
Photo at right: The Canyon View Elementary School's third grade students shown in this photo made the flag that now hangs in the GDSS mail room.



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(Week Ending November 20, 1992)

Cape Canaveral	552
Financial Service Center	110
GD Space Services	64
Hammond	149
Harlingen	260
Huntsville	15
Property Management	9
San Diego	3,079
Vandenberg	206
Other Offsite Locations	61
TOTAL	**4,505**

CRA Travel Offers Several Super Deals

Listed below are just a few of the great deals employees of GDSS can find at CRA Travel located in the CRA Clubhouse. For more information, please contact them at 38248.

Palm Springs Area Special: Erawan Garden Resort

Come stay at this wonderful resort located in the Santa Rosa Mountains. Special rates are now available through May 31, 1993. For just $70 midweek/$80 weekend, you could stay in a large room, with complimentary hors d'oeuvres in the lounge each evening.

Mexico Travel Fiesta

On January 26, 1993, CRA Travel will be having a fiesta at 7 p.m. in the CRA Clubhouse. Come for the fun, food, and door prizes. There will be a drawing for free airline tickets on Aeromexico. Specials on trips to Mexico will also be available.

PRIDE Safety Program Begins in January

The GDSS Safety and Health department will kick off a new safety motivation program in 1993. Called the PRIDE program, it is designed for the "**P**revention of **R**ecordable **I**njuries by **D**edication to **E**xcellence."

This program replaces the current Safety contest. With PRIDE, awards are given for reductions in Occupational Safety and Health Administration (OSHA) recordable incidence rates. An OSHA recordable case is one that requires treatment beyond first aid.

"The PRIDE program levels the playing field so all participating departments have an opportunity to win," according to Bill DeGarmo, manager – Safety and Health. "Winners will be recognized on a quarterly basis. Employees in the winning departments will receive T-shirts or other items with the PRIDE logo on them, and become eligible for a grand prize drawing at year-end."

Unlike the present Safety Contest, all awards will be made during working hours so that all employees in the winning departments can participate. Although this program will be initiated in San Diego, it may expand to include other GDSS sites.

Inside Space ...

From Human Resources – **The Maternity Fraternity has rescheduled its genetics seminar.** It will now be held from 11 a.m. to noon, December 17, in the Kearny Mesa Building 24 Conference Center. Contact Becky McDonald at 44135 for additional information.

From the Safety department – **Congratulations to the Precision Instrument Facility (department 753-0) and Parts Engineering (department 879-1).** These two groups recently were recognized during pizza parties for reaching 1,000 work days without a lost-time accident.

ORBITEER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

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ORBITER
GENERAL DYNAMICS SPACE SYSTEMS DIVISION

December 24, 1992

A Special Holiday Message from Mike Wynne

To My Fellow Employees,

1992, for all of us, was filled with some exhilarating highs, with five successful launches and the opening of the West Coast launch capability, and some dreadful lows, with the second program failure and a decrease in budgets resulting in the departure of some great coworkers.

The highs make you proud, but even during the lows we develop teamwork and fortitude to see success again. All around Space Systems, I see the seeds and talent to achieve that success and the determination to make Space Systems Division a long-term winner.

The Titan/Centaur and Space Magnetics programs each had their share of great accomplishments to set the stage for a great 1993. I see the response to achieve "Best in Space" at all of the sites, including emphasis on highest quality and lowest cost with both internal and external customer service. Your support to continue our improvements is greatly appreciated.

Thanks to you all for your dedication and hard work throughout the year. May you and your family share the holiday celebrations.

I am excited for the successes 1993 will hold.

Happy New Year!

Mike Wynne,
Division President

State of Division To Focus on "Foundation for the Future of Space Systems Division"

The 1993 Space Systems State of the Division Address is scheduled for the evening of January 19 at the Sheraton Harbor Island Hotel. The theme for this year's address is "Foundation for the Future of Space Systems," and the guest speaker for the evening will be Space Systems Division President Mike Wynne.

The president's address will include highlights of the division's performance and accomplishments in 1992, a tour of the division's facilities via a video presentation, a summary of the goals and objectives for 1993, and the implementation of process improvements that will enable us to achieve those goals.

The annual State of the Division Address is sponsored by the National Management Association and will be hosted this year by Carey Riley, division vice president – Business Development. The evening will begin at 5 p.m. with a social hour, followed by dinner at 6 p.m.

Following Mike Wynne's address, a prize drawing will be held, with all proceeds going toward the National Management Association's scholarship fund.

Tickets for the State of the Division event will go on sale January 6. Watch for posters with additional information, or contact your NMA Booster.

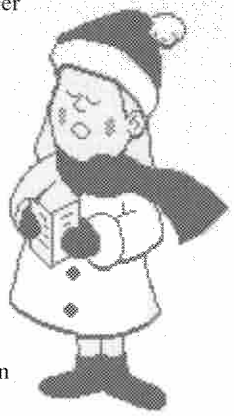
Editor's Note

Look for the new, enhanced* Orbiteer *in 1993. Our first issue will be January 22!

Promotions – October & November 1992

Congratulations to the following individuals who have received promotions:

Daniel Aeling
Kimberly Allen
Michael Altieri
T. Alton, Jr.
Philip Baker
Robert Baldi
Raymond Barnes
Stephen Berger
Gerald Bjorkman, Jr.
Darrell Blalock
Norman Bobczynski
David Bradley
Richard Braeutigam, Jr.
Tina Brisson
Kenneth Bychak
Mario Cabading
Christina Callon
Allen Campion
John Carey
Paul Carstairs
Lashelle Chandler
Robert Churchill
Marguerite Churchman
Steven Cunningham
Marsha Dale
Nancy Dannhauser
Paul Doty
Jonathan Duke
Timothy Dunnum
Edward Dzema, Jr.
Thomas Edwards
Deanna Eppinger
Michael Ernst
Frank Feeser
Sheryl Fehr
James Feinn
Carolyn Ficken
David Fillmore
John Fuhring
Joseph Fust
David Gahan
James Gangle
Mary Garner
Warren Gee
Matthew Groves
Akhil Gujral
Richard Haenke, Jr.
Elaine Hall
Sally Han
Johna Hanson
Jeffrey Harasha
Teressa Hardcastle
Timothy Hauser
Cynthia Helms
Janice Huckaba
Karen Hummel
Elie Jerdak
James Kearns, Jr.
Kyle Keath
Maria Keefe
Michael Keyack
Daniel Kinzie
Kevin Kirby
Mark Kronenberg
Harold Lee
William Levenson
Arlan Lewis
Peggy Little
Joseph Makowski
Steven Mansker
Michael McCusker
Kelli McGhee
June Mendenhall
Jose Menendez
Michael Metcalf
Laura Michell
James Mikkelsen
Lloyd Mills
Michael Murray
Carolyn Neill
Tanh Nguyen
Celeste Notardonato
Michael Orth
Melissa Palco
Paul Pelletier
Russell Person
Suzanne Person
Thomas Pruett
Carol Quimby
Laura Richard
Edwin Roferos
Lori Rose
Ronald Ross
Edwin Schildmeier
William Schiller
Suzanne Schulte
Ben Schwartz
Linda Scoggins
Richard Scott
David Sherrier
Cecelia Simon
Vera Smith
Homer Spears
Brian Stigler
Ronald Tabor
Norman Thomas
Jeffrey Thompson
Paul Thornton
Thomas Van Thiel
Javier Vasquez
M. Von Radesky
Bret Vonder Reith
Bruce Warren
Deanna Wheaton
Lauren Wilkin
Jerry Yen



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Property Management	9
San Diego	2,812
Vandenberg	208
Other Offsite Locations	64
TOTAL	**4,242**

Retirees

Thanks & good luck to these GDSS employees who recently retired:

Carroll J. Coons
Engineer, Sr. ..... 14 years

Richard G. Leiby
Project Engineer, Sr. ..... 3 years

Jeweline H. Richardson
Engineering Specialist ..... 36 years

David L. Smith
Group Leader ..... 21 years

Robert J. Stokely
Engineering Specialist ..... 10 years

Raymond R. Wegrzyn
Engineering Supervisor ..... 9 years

GDSS – VAFB Awards Teaching Excellence Grants

By Lela Reddekopp, Vandenberg AFB Orbiteer *Reporter*

On November 19, Chuck Harter, GDSS director – Vandenberg Operations, presented, on behalf of the division, Teaching Excellence Grants worth $1,000.

These grants will be used by teachers to provide classroom or lab materials, teaching aids, or field trips for which funds are otherwise not available. This year, teachers representing three school districts in the Santa Maria area received the grants.

Righetti High School teachers Catherine Boyle and Angela Boyle received $250 for their Special Education Student Internship proposal. The grant will be used to encourage students to obtain teaching credentials specializing in special education fields.

Joe Nightingale School's kindergarten through second grade will have a new classroom library filled with books that they will be able to check out and take home for family enjoyment. Teachers Mary Zirm and Janet Bertoldi were awarded $375 to fulfill their goal of providing an opportunity for parents to raise kids who love to read.

The 732 children attending Alvin School will be having "Science for Lunch," thanks to General Dynamics. No, they won't be eating their experiments; they will be participating in a short dramatic presentation of a single science concept emphasizing the Earth and physical sciences. GDSS – VAFB awarded $345 to science teacher Karen Porter for this project.

General Dynamics recognizes that schools may not always have optimal resources to enhance the students' education beyond ordinary classroom experience, material, or equipment. Look in future issues of the *Orbiteer* for articles on Teaching Excellence Grant winners from other Space Systems Division sites.

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